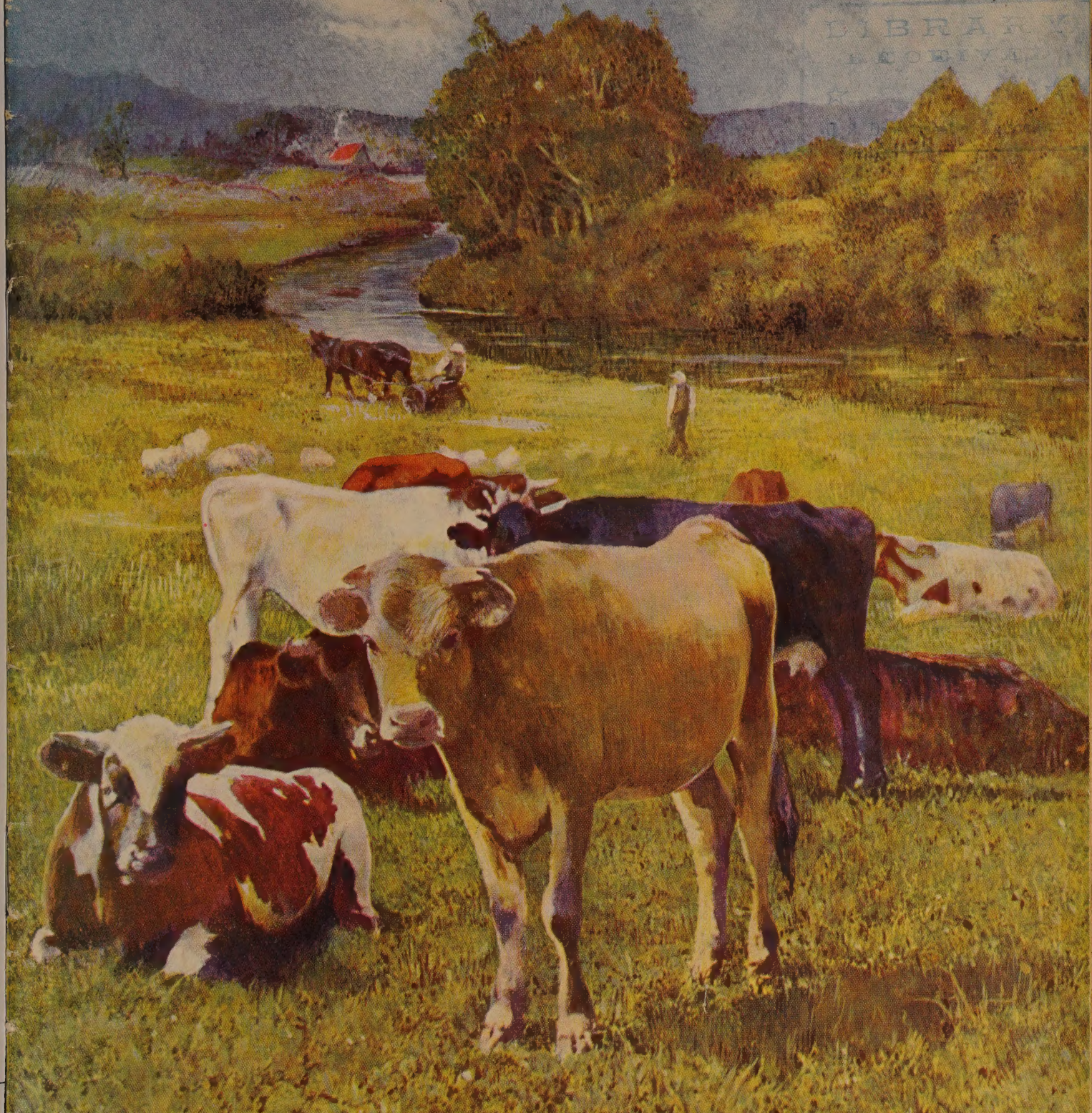


63,9

# The Farm Seed and Manure Position

AUTUMN, 1937

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ARTHUR YATES & Co. Ltd.  
AUCKLAND WHANGAREI NEW PLYMOUTH



# Some Interesting

## Town and Country Gossip

Many farmers this year are saying that it is better to buy a larger quantity of steady acting non-acid manure than to pay extra amounts in income and unemployment taxes, top-dressing costs are an allowable expense under the Income Tax Act even though the results are seen for many years.

The Directors of New Zealand Soluble Slags Ltd. advise that it is not likely that they will be able to accept any new orders for Heskett Basic Slag for delivery before the winter as there are a large number of previously booked orders to deliver first.

Manure merchants generally made a big mistake when they thought that this Autumn there would be less imported non-acid manures wanted owing to the price being a bit higher; farmers generally have more money and can now buy that better class of steady-acting non-acid top-dressing manure which gives better results and keeps the stock more healthy, there undoubtedly will be a big shortage of these manures for autumn delivery.

The other day we heard a well-known Hamilton farmer say that with this season's high price for lamb and butterfat he could now afford to top-dress with a higher priced but better non-acid steady-acting manure like Solubic Slag and Phosfull.

We heard Mr. J. Smith say at the Claudelands Ram Fair that Basic Slag is only 17 to 20 per cent., but Super was 44 to 46 per cent.; don't you believe it! The fact is that 44/46 Super. contains 20 to 21 Phosphoric and Solubic Slag contains 18 to 21 per cent., while 17/20 Slag contains 17 to 20 per cent.; Phosfull contains 26 to 29 per cent. Phosphoric which is more than double the  $\frac{1}{2}$  and  $\frac{1}{2}$  Super Lime mixture which only contains 10 to 11 per cent. Phosphoric and takes double the labour to put on the same number of units of manure.



# **Some Wonderful Results**

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## **From Improved Top-dressing**

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### **On the So-Called Poor Karaka (near Auckland)**

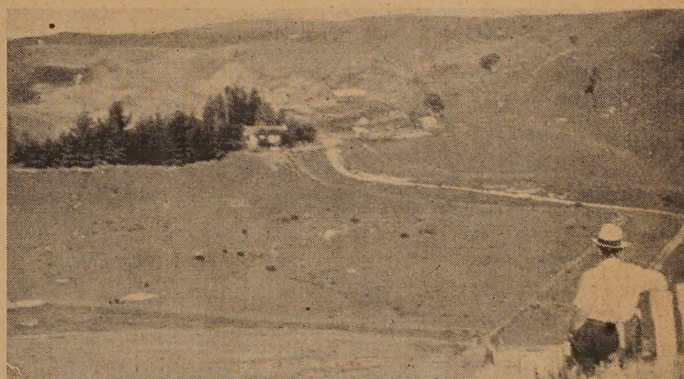
Thirty years ago this land was considered useless and some of it was sold for 10/- an acre because it would not grow oats six inches high without manure. To-day Mr. Fred Yates on 850 acres of this land in grass only, as the result of yearly top-dressing with 4½ cwt. per acre of Basic Slag, Phosfull or other non-acid manures only, is able to carry through every winter without hay, ensilage or winter crop, etc., over 4,200 breeding ewes, 100 rams and about 200 bullocks which he fattens. He yearly sells over 4,300 fat lambs at top prices plus his 100 or so bales of wool, etc.; he never uses any acid manures and as the labour costs are not big the profit side of the picture can be left to your imagination.



*The very obvious effect of top-dressing dirty country and heavy grazing; top-dressing is a perfect weed killer.*

### **On the So-Called Useless Pumice Area** **(near Arapuni)**

In 1933 we became interested in a settler who was trying to milk about 20 cows on 780 acres in the barren pumice area about 20 miles inland from Putaruru, the place had then reverted to practically nothing but ragwort with a little grass here and there. Through top-dressing for four years with 4 to 5 cwt. per acre per year of non-acid manure only, such as Basic Slag or Phosfull, we have built up the winter carrying capacity (the hardest period) to about 3,000 breeding ewes and 200 cattle, and we fatten the lambs. As only non-acid fertilizers are used the effect is cumulative and the carrying capacity will continue to improve for some years. Even though the winter is harder and some ensilage has to be made for wintering purposes we like this type of country very much because it does not dry out in the summer or poach up in the winter, the eventual carrying capacity of this country is enormous with proper top-dressing.



*A general view of the Pumice area farm described on this page.*

### **In the Far North (Keri Keri, Bay of Islands)**

We know a Mr. Guy Ward, of Keri Keri, who is carrying through every winter on 500 acres without hay, ensilage or cropping about 1,600 breeding ewes and 120 rams and wethers plus 6 horses and a dozen or so cattle. He was not making any progress until he some years ago accepted our advice regarding his top-dressing programme; he now uses 4 cwt. per acre per years of non-acid manure, such as Slag or Phosfull, in addition to these non-acid manures he every few years limes as well because his place is wet and sour. We say, without fear of contradiction, that there should be little unproductive land up north with their normal copious rainfall and very easy winter, it is mainly a question of putting on sufficient of the right kind of top-dressing.

**ANY OF THE ABOVE STATEMENTS CAN BE CHECKED BY  
ENQUIRING FROM THE LOCAL CARRIERS OR RESIDENTS**



# Dosing of Sheep and Cattle for control of Internal Parasites and Stomach Worms

*The following methods are as recommended by the Veterinary Laboratory of the Department of Agriculture, Wellington, and this article is in the main a reprint of portions of notes given in the N.Z. Journal of Agriculture.*

Considerable mortality occurred in young stock during the winter of 1936, and much of the loss was directly or indirectly due to internal parasites, chiefly stomach-worm, though lung-worm was troublesome in some instances.

In some instances a single treatment with a reliable worm-drench checks mortality and is followed by improvement in the remainder. At other times repeated drenching seems of little benefit unless aided by better feeding. With young sheep some supplementary feeding greatly reduces the number of parasites that becomes established in the sheep.

Routine drenching of young sheep is accepted as a necessity on many sheep-farms. The same conditions apply in young cattle. Parasitic disease is one of the penalties to be paid for permanent pastures and heavy stocking, and must be guarded against. Drenching of young stock once mortality has commenced is sometimes disappointing in its results. Among the several reasons for this are—

(a) Treatment is not begun until all animals are already in an anæmic state and have lost condition; (b) insufficient attention is paid to supplementing the action of the drench by some improvement in feeding (complete elimination of worms, even if it were possible, would still leave the animal in an anæmic, weakly state calling for nursing and tonics); (c) animals are returned to the same pastures and reinfection is constantly taking place.

The symptoms of parasitic gastritis are unthriftiness, harsh coat, and a "skinny" appearance, weakness, anæmia indicated by pallor of lining of eyelids, &c., and nearly always some degree of scouring. Somewhat similar symptoms are seen in "bush-sick" cattle, but scouring is not a feature.

In view of the increase in value of dairy yearlings and store lambs additional care is justified. Particularly where parasitic gastritis has been in evidence in the past, drenching should be commenced not later than the 1st of March, and repeated at least once a month.

## A SIMPLE AND SUITABLE WORM-REMEDY FOR CATTLE

2 oz. bluestone and 2 oz. of 40-per cent. nicotine sulphate to 1 gallon of water. Six-to-eight-months calves may be given 4 oz., increasing gradually to 6 oz. at a year old. It may be found that a few yearlings will be made staggy and will go down, but these will recover in a few minutes. If this happens the amount of drench may be slightly reduced. No preliminary fasting is necessary, but it is desirable to yard the animals for two hours beforehand and to keep them from water for one hour after drenching.

## FOR SHEEP

The prescription may be given as follows: Nicotine sulphate (40 per cent.), 16 fluid ounces; copper sulphate, 16 oz.; water, 5 gallons. Dose: One ounce for weaned lambs and 1½ oz. for two-tooths. If lambs are drenched before weaning ½ oz. may be given. The drench should be repeated at not more than three-weeks intervals throughout the season.

## PRICES OF MATERIALS REQUIRED FOR DRENCHING

**Nicotine Sulphate (Nick-Tina 40)—**

6oz. 4/6, 1lb. 8/6, 2lb. 13/6, 5lb. 25/6,  
10lb. 45/6.

**Bluestone, Powdered—**

7lb. 4/9, 10lb. 6/6, 14lb. 7/3, 28lb. 11/6,  
56lb. 21/6, cwt. 35/6.

**Ready Mixed Concentrated Dosing Fluid**—Prepared strictly according to the above formulae as recommended by the Department of Agriculture, it will be found more economical than mixing your own and much more convenient.

For dosing sheep add to the contents of each bottle used sufficient water to make a total of two gallons, and dose per head as mentioned above.

For dosing cattle—To three gallons of water add the contents of one bottle and dose as mentioned above.

**Price per (20 oz. approx.) bottle 5/- each  
per ½ doz. bottles - - 4/8 each**

**All Carriage Extra**

*Supplies of Concentrated Solution available subject to receipt of Certificate of Registration (Dept. of Agriculture) expected within few days.*



# Grass Seed Mixtures



PHOTO E. B. LEVEY, DEPT. AGRIC.

**A Well Constituted Pasture.**

stock eat them so close. Then, again, is it to be a permanent or temporary pasture? The physical characteristics of the soil also have to be taken into consideration, as a light, sandy and porous soil will grow certain grasses that would not do so well on heavy, moist land.

**P**ERHAPS one of the greatest difficulties that confronts the farmer in Pasture establishment is to decide what Grasses to establish. You can be guided in this by noticing the ones that are making the most satisfactory growth in your district; these should form the base of the mixture, taking care that they are not predominant, because stock do not like them. Some such Grasses are Brown Top, Tall Fescue, etc. It must be borne in mind that such Grasses as Timothy are rarely seen, as

## PERMANENT PASTURES.

This mixture should contain some more or less annuals, like Italian Ryegrass and Red Clover etc., that will start growth and give feed before the perennials get a firm hold. However, care must be taken not to include too large a proportion of these annuals, as they often cover the ground and make luxuriant growth. This may seem all right, but underneath this foliage are the more slowly establishing grasses, struggling to reach the sun, without which they cannot live. Those that do succeed are weakened by their struggle, and are unable to tiller out in the natural manner of their species, thus leaving bare patches when the temporary grasses die out.

## TEMPORARY PASTURES.

The main uses of these pastures are:

- (1) To help break in land.
- (2) To give quick-growing feed at crucial times of the year.
- (3) To help in the suppression of weed growth.

Rapid growth and quick maturity are the main essentials, and those grasses commonly used are: Italian Ryegrass, Western Wolths, and Red and Crimson Clovers.

We give on following page some pasture mixtures for different classes of soil, these having been tried and found very satisfactory.

## SOW THE BEST SEED.

Good advice, heavy fertilizing, the best of soil preparation, will not give bounteous crops unless you sow the best of seed, which, after all, only costs a few shillings per acre more than poor seed.



# Yates' Mixture of Grasses

**Yates Pay Freight on all Grass Seed Orders Over £1 Value.**

**SOW  
THE BEST.  
IT IS  
YATES'**

## REMEMBER THIS:

that less than 1% of a bad weed like ragwort in grass seed would produce over 100,000 patches of ragwort to the acre. 30lbs. seed  $\times$  half-million seeds to the lb.  $\div$  1% = 150,000.

### "A" MIXTURE

*For Bush Burns, on good loamy soil, limestone formation.*

- 12 lbs. Ryegrass, Perennial
- 5 " Cocksfoot
- 2 " Timothy
- 1 " Meadow Fescue
- 2 " Crested Dogtail
- 2 " Danthonia
- 3 " Paspalum
- 1 " Meadow Foxtail
- 1/2 " Poa Pratensis
- 1/2 " Poa Trivialis
- 2 " Cowgrass
- 1 " White Clover
- 1/2 " Alsike Clover
- 1/4 " English Rape
- 1/2 " Lotus Major
- 1/4 " Turnip
- 1/4 " Subterranean Clover

### "T" MIXTURE

*For Temporary Pasture.  
For one year.*

- 30 lbs. Italian Ryegrass
- 6 " Red Clover
- 2 " Crimson Clover
- Western Wulfs may be substituted for Italian Ryegrass, using same quantities.

### "B" MIXTURE

*For Bush Burns, poor clay soil, and second-class heavy land.*

- 5 lbs. Ryegrass, Perennial
- 8 " Cocksfoot
- 3 " Danthonia
- 2 " Paspalum Dilitatum
- 3 " Dogtail
- 1 " Brown Top
- 1/2 " Lotus Major
- 2 " Red Clover
- 1 " White Clover
- 1/2 " Alsike Clover
- 1 1/2 " Trefoil Clover
- 1/4 " English Rape
- 1/4 " Turnip
- 1/4 " Subterranean Clover

### "F" MIXTURE

*For Ploughed Land, poor soil, permanent pasture.*

- 16 lbs. Ryegrass, Perennial
- 8 " Cocksfoot
- 3 " Crested Dogtail
- 3 " Cowgrass
- 2 " White Clover
- 1 " Alsike Clover
- 1 " Lotus Angustissimus
- 1/2 " Lotus Major
- 1/4 " Subterranean Clover

### "C" MIXTURE

*For Ploughed Land, good loamy soil, permanent pasture.*

- 20 lbs. Ryegrass, Perennial
- 3 " Ryegrass, Italian
- 6 " Cocksfoot
- 3 " Timothy
- 3 " Crested Dogtail
- 3 " Paspalum
- 1/2 " Meadow Foxtail
- 2 " Meadow Fescue
- 2 " Cowgrass
- 2 " White Clover
- 1 " Alsike Clover
- 1/4 " Subterranean

### "G" MIXTURE

*For good dry alluvial Swamp, Flax, Raupo Land.*

- 15 lbs. Ryegrass, Perennial
- 3 " Ryegrass, Italian Re-cleaned
- 7 " Cocksfoot
- 3 " Paspalum
- 4 " Timothy
- 1 " Meadow Foxtail
- 2 " Meadow Fescue
- 1 " Poa Trivialis
- 2 " Cowgrass
- 2 " White Clover
- 2 " Alsike Clover
- 1/4 " Rape
- 1/4 " Devonshire Greystone Turnip

### "D" MIXTURE

*For Ploughed Land, good loamy soil, two years' lay.*

- 20 lbs. Italian Ryegrass or Western Wulfs
- 10 " Perennial Ryegrass
- 3 " Timothy
- 6 " Cowgrass
- 2 " Alsike

### "H" MIXTURE

*For consolidated drained Peat Swamp Land.*

- 15 lbs. Ryegrass, Perennial
- 2 " Ryegrass, Italian, Re-cleaned
- 8 " Cocksfoot
- 3 " Paspalum
- 3 " Timothy
- 1/4 " Meadow Foxtail
- 1/2 " Poa Pratensis
- 2 " Cowgrass
- 2 " White Clover
- 2 " Alsike Clover
- 1 " Lotus Major
- 1/4 " Subterranean

### "E" MIXTURE

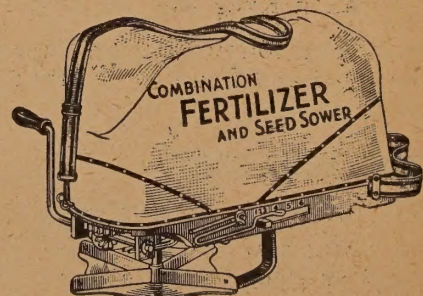
*For Raw, unconditioned Peat Swamp.*

- 15 lbs. Yorkshire Fog
- 4 " Lotus Major

## Combination Fertilizer and Seed Sower

Of special value to farmers wishing to apply Fertilizer or Seed. Can be used anywhere that a man can walk, since it is carried by means of a strap over the shoulder of the operator. Is especially useful on steep, rough, irregular grass lands.

Machine will sow Fertilizers up to 100, 200 or 300 lbs. per acre, in a strip a rod wide as fast as a man can walk. One man can get over the ground as fast as a man and a team with an ordinary drill (Weight 5 lbs.). We will send on approval and pay freight one way provided the machine is not used. **Price, 30/- net.**



**Arthur Yates & Co., Ltd., Box 1109, Auckland**



# Yates' Reliable Pasture Grasses

Arranged in Alphabetical Order.

## GRASS SEEDS FOR PASTURES.

Delivery F.O.B. or F.O.R., but Yates' pay freight to nearest direct station or port on fl orders and over.

Sacks extra at value. Mixed free if required. All prices are nett.

|                             | 1lb. | 25lb. | 50lb. | 100lb. |
|-----------------------------|------|-------|-------|--------|
| BROMUS INERMUS              | 2/7  | 2/5   | —     | —      |
| BROWN TOP, extra special    | 1/9½ | 1/8½  | 1/8   | 1/7½   |
| BROWN TOP (Agrostis Tenuis) | 1/6  | 1/5½  | 1/5   | 1/4½   |

This grass is suitable to include in a mixture for poor land, or hill country where it is difficult to use fertilizers, and the other grasses are likely to die out; otherwise on good land, or even poor soils, where fertilizers are going to be used, it should not be sown. Stock will not touch it if they can get an ordinary Cocksfoot, Ryegrass, Clover pasture, but a small quantity included in a mixture for difficult country where manures are not likely to be used is good, as it will gradually take the place of the better grasses as they die out, and so prevent fern and manuka coming into the pasture. Later, if manuring is adopted, the Brown-top will be checked by the accelerated growth of the better grasses.



Cocksfoot

## COCKSFOOT (*Dactylis Glomeata*)

### YATES' EXTRA SPECIAL RE-MACHINED AKAROA—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/5½ | 1/5   | 1/4½  | 1/4¼   | 1/4    |

### GOVERNMENT CERTIFIED MOTHER—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/5½ | 1/5   | 1/4½  | 1/4¼   | 1/4    |

### MACHINE-DRESSED AKAROA—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/5  | 1/4½  | 1/4   | 1/3¼   | 1/3½   |

### NEW ZEALAND LOCAL SAVED—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/2  | 1/1½  | 1/1   | 1/0¾   | 1/0½   |

### YATES' EXTRA SPECIAL RE-MACHINED DANISH—

| 1lb.  | 25lb. | 50lb. | 100lb. | 200lb. |
|-------|-------|-------|--------|--------|
| 10½d. | 10d.  | 9½d.  | 9¼d.   | 9d.    |

### MACHINE-DRESSED DANISH—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 10d. | 9½d.  | 9d.   | 8¾d.   | 8½d.   |

Found in all situations, on all varieties of soils, it is perhaps the best known of all grasses, being easily distinguished from others by its peculiar flattened stem and its growth in tufts. It should be included in all mixtures for permanent pasture, as it is in first rank of forage grasses on account of its heavy yielding power, high nutritive qualities, and the rapidity of growth after being eaten off. Considerable care and judgment should be taken in the treatment of a new pasture to ensure Cocksfoot being a success; it must not be eaten close during the first year, and, on the other hand, other growth, such as Ryegrass, must not be allowed to smother it. It has proved to be one of the most useful grasses for permanent pasture in parts of New Zealand where the rainfall is ample, especially for dairying; the spring growth starts early, and the aftermath, after being mown or eaten down, grows quickly, and, having a deep root system where the soil is suitable for the root to penetrate, it stands drought well.



Crested Dogtail

## CHICORY

(*Cichorium intybus*).

| 1lb. | 25lb. | 50lb. |
|------|-------|-------|
| 1/11 | 1/10½ | 1/10  |

A strong, deep-rooted perennial, useful as a food for sheep or cattle. It has been brought into prominence lately in England, owing to its power of penetrating and breaking up the subsoil, and thus letting the air in.

## CRESTED DOGSTAIL

(*Cynosurus Cristatus*).

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/2½ | 1/2   | 1/1½  | 1/1    | 1/0½   |

Very valuable for dry pastures, as its fibrous roots penetrate to a considerable depth and enable it to withstand a continuance of dry weather. The foliage is short and compact, and will stand any amount of grazing. On hills and rolling country it is of great value as a filling-in grass. As the seed stalks are hard, they are not eaten by stock, thus allowing the plant to re-seed itself. Sheep are especially fond of it; they will often eat it right down to the ground, even when there is any amount of other feed.

Arthur Yates & Co., Ltd., Box 1109, Auckland





**Danthonia Semi Annularis.**



**Danthonia Pilosa.**

## DANTHONIA.

### YATES' RE-DRESSED DANTHONIA PILOSA—

| 1lb.  | 25lb. | 50lb. | 100lb. | 200lb. |
|-------|-------|-------|--------|--------|
| 11½d. | 11d.  | 10½d. | 10¼d.  | 10d.   |

### YATES' RE-DRESSED DANTHONIA, SEMI-ANNULARIS—

| 1lb.  | 25lb. | 50lb. | 100lb. | 200lb. |
|-------|-------|-------|--------|--------|
| 11½d. | 11d.  | 10½d. | 10¼d.  | 10d.   |

**Danthonia.**—One of the best “early” grasses, and is, in conjunction with *Lotus Angustissimus*, a very valuable grass for breaking in ti-tree or fern country. Too often this grass is adversely judged by the dried-up appearance at seeding time. This is a wrong idea. Even in the driest seasons sheep can get at the new green growth coming along underneath. Some people say that they would rather have Brown Top, because it generally has more feed on the plant. This feed is there because stock do not like Brown Top compared with other grasses. There are two varieties of *Danthonia* in commerce: *Pilosa* and *Semi-Annularis*; the former is considered to throw more feed than the latter.

## FESCUE, CHEWING'S (*Festuca Saburicola*).

| 1lb. | 25lb. | 50lb. | 100lb. |
|------|-------|-------|--------|
| 1/4  | 1/3   | 1/2½  | 1/2    |

Invaluable for light pumice or sandy soils, where it roots very deeply, and affords quite a large quantity of feed. It should not be sown on dairying land, but for sheep pastures on poor, sandy soil it is admirably suited. Is often sown on poor land to prepare the way for better grasses and clover, as, owing to its deep rooting system, it provides a large amount of humus. Re-machined seed of this variety should always be brought, as ordinary samples often contain Hair Grass, which is a weed that is rejected by stock, and one that spreads quickly.

## FESCUE, MEADOW (*Festuca Pratensis*).

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 11d. | 10d.  | 9½d.  | 9d.    |        |

A very excellent grass, that should be included in all mixtures, except, perhaps, those required for sowing in very dry soils. The root crown has a creeping habit, and is of perennial character, maturing in from two to three years, at which time it gives its maximum amount of feed. Greatly relished by stock, and making highly nutritious hay, it is a very useful grass. The seed head much resembles Perennial Ryegrass, and care must be taken not to confuse the two.

## FESCUE, TALL (*Festuca Arundinacea*).

| 1lb. | 25lb. | 50lb. |
|------|-------|-------|
| 7d.  | 6½d.  | 6d.   |

We do not recommend this variety, as it is coarse and reedy, not much relished by stock, whilst it is peculiarly susceptible to the ergot fungus. It will absolutely destroy any low-lying pastures.

|              |   |   |      |      |      |                     |     |      |      |     |
|--------------|---|---|------|------|------|---------------------|-----|------|------|-----|
| FESCUE, HARD | — | — | 2/2¼ | 2/1¾ | 2/1½ | FESCUE, SHEEP'S     | —   | 2/2¾ | 2/2¼ | 2/2 |
| FESCUE, RED  | — | — | 2/2¼ | 2/1¾ | 2/1½ | FESCUE, FINE LEAVED | 3/6 | 3/4  | 3/3  |     |

Arthur Yates & Co., Ltd., Box 1109, Auckland



## FIORIN (*Agrostis Stolonifera*).

| 1lb. | 25lb | 50lb. |
|------|------|-------|
| 2/6  | 2/4  | 2/3   |

A grass affording abundance of keep after other sorts are spent. It succeeds best on moist soils, thriving well on peat, and should be included only in such mixtures. It is of second-rate quality only.

## INDIAN DOOBJ or BERMUDA GRASS

(*Cynodon Dactylon*)

| 1lb. | 25lb | 50lb. |
|------|------|-------|
| 2/3  | 2/-  | 1/11  |

A creeping grass, which, when once established, is difficult to eradicate. It stands drought well, but as there is very little winter growth, we think it is not the most suitable for this climate; it is largely grown in parts of Australia, and does well in South Sea Islands.

**MUSTARD, YATES' SELECTED AGRICULTURAL** 11d. 10d. 9½d. 9d.

**MARRAM GRASS—ROOTS:** 5/- per 100; 40/- per 1000. Carriage extra.

## MEADOW FOXTAIL (*Alopecurus Pratensis*).

| 1lb. | 25lb | 50lb | 100lb. | 200lb. |
|------|------|------|--------|--------|
| 1/7  | 1/6½ | 1/6  | 1/5½   | 1/5    |

Foxtail is considered one of the earliest and best grasses grown for permanent pasture. It produces a large quantity of tender, succulent herbage, greedily eaten by all kinds of stock. Its leaves are broad and of a rich dark green colour. Succeeds best on rich loams, drained swamps, or strong, moist lands. We consider Meadow Foxtail one of the most valuable grasses in existence, and it should be more extensively grown to be appreciated.



Meadow Foxtail

# Paspalum Dilitatum

### PASPALUM DILITATUM:

Yates' Australian Hand-shaken—

| 1lb.  | 25lb. | 50lb. | 100lb. | 200lb. |
|-------|-------|-------|--------|--------|
| 1/11½ | 1/11  | 1/10½ | 1/10   | 1/9½   |

PASPALUM: Best New Zealand—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/4½ | 1/4   | 1/3½  | 1/3    | 1/2¾   |

### PASPALUM:

Ordinary Australian—

| 1lb.  | 25lb. | 50lb | 100lb. | 200lb |
|-------|-------|------|--------|-------|
| 1/10½ | 1/10  | 1/9½ | 1/9    | 1/8½  |

PASPALUM: Ordinary New Zealand—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb |
|------|-------|-------|--------|-------|
| 1/3½ | 1/3   | 1/2½  | 1/2    | 1/1¾  |

Paspalum will grow on almost any soil or situation, providing it is warm. As it is almost dormant during the winter, and slow in forming a pasture, it should form part of a general mixture, say, two to four pounds per acre. See suggested mixtures on page 3. The growth must be kept down during the flush in the summer and autumn to prevent the Paspalum choking out the other grasses and clovers, and therefore surplus feed should be mown and made into hay or ensilage. These remarks apply to most grasses and pastures.

Complaints are heard that Paspalum on poor soil gets stunted, matted and sod-bound; this can be avoided by top-dressing, liming, and management. On even steep, hilly country manures can, and should, be hand sown, and by crowding stock on the hills in the flush and making hay or ensilage on the flats, it can be properly controlled.

Paspalum and associated grasses, properly manured, will give a bigger production than any other.

Paspalum and Clover, with the aid of manure and stocking, eradicates weeds, such as Blackberry and Gorse, Fern, and even Tall Fescue.

**PHALARIS BULBOSA** ..... 6/- 5/9 5/6

## POA PRATENSIS, or KENTUCKY BLUE GRASS

| 1lb. | 25lb. | 50lb. | 100lb. |
|------|-------|-------|--------|
| 1/6  | 1/5   | 1/4½  | 1/4    |

Smooth-stalked Meadow Grass, or Blue Grass. One of the best permanent grasses, invaluable for dry situations, yielding a large quantity of herbage very early in the season. As its creeping roots take possession of some rich, light soils and are difficult to eradicate, it should be used with caution on such soil as is likely to be required for cropping, and only sown in permanent pastures.

Arthur Yates & Co., Ltd., Box 1109, Auckland



Above shows the uneven ripening of Paspalum, therefore buy only genuine Australian Handshaken Seed.



Smooth-stalked Meadow Grass (*Poa Pratensis*).



# Poa Aquatica

The Grass that is Reclaiming large areas of Swamp and Low-lying Land and providing the best possible Feed in the dry weather, when most other Grasses are drying off.

| SEED | 1lb. | 25lb. | 50lb. | ROOTS | 100 | 1,000 |
|------|------|-------|-------|-------|-----|-------|
|      | 4/6  | 4/3   | 4/-   |       | 3/- | 27/-  |

- (1) Is a perennial grass, growing 6 or 7 feet high if allowed.
- (2) Is easily propagated by roots or by seed. Once introduced, it spreads by runners.
- (3) No preparation of land is needed.
- (4) Spreads rapidly in swamps and wet marshes.
- (5) Has good fattening properties; especially good for dairy herds during summer. It is the best possible grass for swamps.
- (6) Is unharmed by the biggest and longest lasting floods.
- (7) Will never become a nuisance by extending into cultivated and hill land, as it cannot live on dry land. As soon as swamp is dry, other grasses supersede it.
- (8) Is improved by trampling and close feeding.
- (9) It reclaims swamps by crushing out sedges, rushes, moss, etc.
- (10) Provides up to 50 tons of green feed per acre.
- (11) It obviates much expensive draining, being invaluable for undrainable swamps; makes them worth £50 an acre.

GET A FEW POUNDS OF SEED IN FEBRUARY, OR SACKS OF ROOTS IN MAY TO AUGUST, TO INTRODUCE IT.

|               |     |     |     |
|---------------|-----|-----|-----|
| POA NEMORALIS | 5/2 | 5/- | 4/9 |
|---------------|-----|-----|-----|

## POA TRIVIALIS

(Rough Stalked Meadow Grass)

| 1lb. | 25lb. | 50lb. | 100lb. |
|------|-------|-------|--------|
| 2/1  | 2/-   | 1/11  | 1/10   |

Roots fibrous perennial. This grass is valuable on account of its quick growth, productiveness and nutritive qualities. Grows to perfection on moist, rich soils, and is also well adapted to ground shaded by trees. Grows early in the spring, and continues green until late in the autumn. As it delights in shelter, its product is always much greater when sown with other grasses. Does not thrive well on dry soils.



Prairie Grass.

## RATSTAIL (Sporobolus Elongatus).

| 1lb. | 25lb. | 50lb. | 100lb. |
|------|-------|-------|--------|
| 2/-  | 1/11  | 1/10½ | 1/10   |

Valuable only for hilly, broken, poor land. The young growth is tender and nutritious. When it gets old, it is tough and severe on animals' teeth, although there is some doubt as to whether its wearing action on the teeth of stock is not confined to loose, sandy soils, where the sand, blowing on to the somewhat glutinous stems, sticks on them, and that it is the sand that grinds the teeth, not the grass. We have been told frequently that on heavy land it does not affect the teeth. It should, in any case, be kept eaten close. It stands drought well, and should be sown in summer or very early autumn.

## RED TOP (Agrostis Vulgaris).

| 1lb. | 25lb. | 50lb. |
|------|-------|-------|
| 1/2½ | 1/1½  | 1/1   |

Useful for sowing on poor, hilly pastures and dry, sandy or gravelly land. Liable to become troublesome on rich soils.

## RAPE, YATES' SELECTED BROAD-LEAVED—

| 9d. | 8d. | 7½d. | 7d. |
|-----|-----|------|-----|
|-----|-----|------|-----|

## RAPE, ORDINARY SOWING—

| 8d. | 7d. | 6½d. | 6d. |
|-----|-----|------|-----|
|-----|-----|------|-----|

Until recent years Rape has been grown almost exclusively to provide pasture for sheep; but it is gradually being proved equally good for all kinds of stock. Rape is one of the easiest crops to handle. Sow in drills at the rate of 2lb. to 3lb. per acre.

## PRAIRIE GRASS

### YATES' RE-MACHINED—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 5¾d. | 5¼d.  | 5d.   | 4¾d.   | 4½d.   |

This is a very nutritious and palatable perennial, one of the earliest in the spring, and a robust grower. It might almost be classed as a perennial green oat crop, in so far as its usefulness is concerned when sown by itself, or with Cowgrass and White Clover, and a special paddock of it, or them, to be eaten off in rotation, would be found to be very useful for late winter and early spring use, when feed for cows is usually scarce. Care must be taken that it is not eaten too close in feeding it off, as the crown may be eaten right out. Probably care in this respect is the reason that it is not grown more extensively. Grows luxuriantly on rich soils, and stands droughts very well.



## PERENNIAL RYEGRASS (*Lolium Perenne*).

### GOVERNMENT CERTIFIED (H.B.)—

| 1lb. | 25lb.               | 50lb.               | 100lb.              | 200lb. |
|------|---------------------|---------------------|---------------------|--------|
| 11d. | 10 $\frac{3}{4}$ d. | 10 $\frac{1}{2}$ d. | 10 $\frac{1}{4}$ d. | 10d.   |

### GOVERNMENT CERTIFIED (SOUTH)—

|                    |                    |     |                    |                    |
|--------------------|--------------------|-----|--------------------|--------------------|
| 8 $\frac{1}{2}$ d. | 8 $\frac{1}{4}$ d. | 8d. | 7 $\frac{3}{4}$ d. | 7 $\frac{1}{2}$ d. |
|--------------------|--------------------|-----|--------------------|--------------------|

### GOVERNMENT CERTIFIED (COM.)—

|     |                    |                    |                    |     |
|-----|--------------------|--------------------|--------------------|-----|
| 8d. | 7 $\frac{3}{4}$ d. | 7 $\frac{1}{2}$ d. | 7 $\frac{1}{4}$ d. | 7d. |
|-----|--------------------|--------------------|--------------------|-----|

### YATES' MACHINE-DRESSED POVERTY BAY AND

### HAWKE'S BAY (Genuine Old Pasture)—

|                    |                    |     |                    |                    |
|--------------------|--------------------|-----|--------------------|--------------------|
| 8 $\frac{1}{2}$ d. | 8 $\frac{1}{4}$ d. | 8d. | 7 $\frac{3}{4}$ d. | 7 $\frac{1}{2}$ d. |
|--------------------|--------------------|-----|--------------------|--------------------|

### YATES' EXTRA HEAVY RE-MACHINED—

|                    |                    |                    |     |                    |
|--------------------|--------------------|--------------------|-----|--------------------|
| 5 $\frac{3}{4}$ d. | 5 $\frac{1}{2}$ d. | 5 $\frac{1}{4}$ d. | 5d. | 4 $\frac{3}{4}$ d. |
|--------------------|--------------------|--------------------|-----|--------------------|

### EXTRA MACHINED CANTERBURY—

|                    |                    |     |                    |                    |
|--------------------|--------------------|-----|--------------------|--------------------|
| 5 $\frac{1}{2}$ d. | 5 $\frac{1}{4}$ d. | 5d. | 4 $\frac{3}{4}$ d. | 4 $\frac{1}{2}$ d. |
|--------------------|--------------------|-----|--------------------|--------------------|

### FINEST SOUTHERN—

|                    |     |                    |                    |                    |
|--------------------|-----|--------------------|--------------------|--------------------|
| 5 $\frac{1}{4}$ d. | 5d. | 4 $\frac{3}{4}$ d. | 4 $\frac{1}{2}$ d. | 4 $\frac{1}{4}$ d. |
|--------------------|-----|--------------------|--------------------|--------------------|

The backbone of most pastures on good soil, and it is invariably the leading grass in all seed mixtures, but on poorer soils it often dies out. The question arises: Should it be sown at all on poor soils? Custom says: Yes; and we agree with it, because it is a quick grower, covers the land, and provides an early bite, keeping down weeds while the more permanent grasses are establishing themselves. It is to a greater degree permanent if not allowed to seed the first year and heavily stocked. It will stand any amount of trampling by stock, as is shown on the sides of roads and in school playgrounds, where it is the only grass doing well. Topdressing greatly increases the chances of Ryegrass becoming permanent.

The Department of Agriculture now certify certain Ryegrass strains as "Government Certified Perennial," but the price is still high; we suggest, however, that you include some in your pastures; about half only of Government Certified and half of ordinary good type Perennial, because the Certified is not as palatable to stock as the old ordinary Perennial.

## ITALIAN RYEGRASS (*Lolium Italicum*)

### GOVERNMENT CERTIFIED ITALIAN—

| 1lb.               | 25lb.              | 50lb.              | 100lb.             | 200lb. |
|--------------------|--------------------|--------------------|--------------------|--------|
| 7 $\frac{1}{4}$ d. | 6 $\frac{3}{4}$ d. | 6 $\frac{1}{2}$ d. | 6 $\frac{1}{4}$ d. | 6d.    |

### YATES' GIANT RE-MACHINED—

| 1lb.               | 25lb. | 50lb.              | 100lb.             | 200lb.             |
|--------------------|-------|--------------------|--------------------|--------------------|
| 5 $\frac{1}{4}$ d. | 5d.   | 4 $\frac{3}{4}$ d. | 4 $\frac{1}{2}$ d. | 4 $\frac{1}{4}$ d. |

### RE-MACHINED—

| 1lb. | 25lb.              | 50lb.              | 100lb.             | 200lb. |
|------|--------------------|--------------------|--------------------|--------|
| 5d.  | 4 $\frac{3}{4}$ d. | 4 $\frac{1}{2}$ d. | 4 $\frac{1}{4}$ d. | 4d.    |

Produces an abundant supply of succulent, nutritious feed. It is a quicker grower than Perennial Ryegrass, and gives a bigger crop the first year, being on this account a very valuable crop if sown with an annual clover for hay or green feed. A rich alluvial soil is best suited for it, as it is a gross feeder. Owing to this, it is not advisable to include very much of it in a mixture for a permanent pasture, as it is liable to smother the slower permanent grasses. The seed is very similar to Perennial Ryegrass, but it can be distinguished by an awn or tail, which the Perennial Ryegrass has not got.

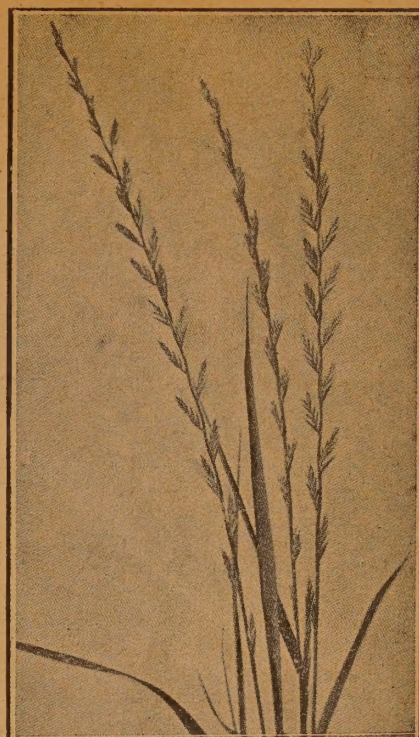
## WESTERN WOLTHS (*Lolium Westwolticum*)

### YATES' RE-MACHINED—

| 1lb. | 25lb.              | 50lb.              | 100lb.             | 200lb. |
|------|--------------------|--------------------|--------------------|--------|
| 5d.  | 4 $\frac{3}{4}$ d. | 4 $\frac{1}{2}$ d. | 4 $\frac{1}{4}$ d. | 4d.    |

This, like Italian Ryegrass, is a valuable grass for one or two years' lay. Some farmers prefer it to Italian Ryegrass, as it will often throw a larger amount of feed in a shorter time. It originally came from Holland, where, being raised on the rich alluvial flats, it has proved to be a most robust form of Italian Ryegrass, its rapid and powerful growth providing much appreciated feed for stock.

Sown with Crimson Clover at the rate of 30lbs. Western Wolths to 60lbs. of Crimson Clover, it is unsurpassed for a catch crop for one or two years' lay.



Perennial Ryegrass



Italian Ryegrass



## RIB GRASS (*Plantago Lanceolata*).

|      |       |       |        |
|------|-------|-------|--------|
| 1lb. | 25lb. | 50lb. | 100lb. |
| 5½d. | 5d.   | 4¾d.  | 4½d.   |

The narrow-leaved Plantain. This well-known forage plant is liked by all stock, and is a valuable item in all good pastures.

## SAINFOIN (*Onobrychis sativa*).

|      |       |       |
|------|-------|-------|
| 1lb. | 25lb. | 50lb. |
| 1/8  | 1/6   | 1/5   |

Thrives well on soil of limestone formation, is thoroughly perennial, and an excellent drought-resister. The produce, which is luxuriant, is much relished by horses and other stock.

|                 |      |       |       |
|-----------------|------|-------|-------|
|                 | 1lb. | 25lb. | 50lb. |
| SHEEP'S BURNETT | 1/11 | 1/10  | 1/9   |

## SHEEP'S PARSLEY (*Petroselinum Hortense*).

|      |       |       |
|------|-------|-------|
| 1lb. | 25lb. | 50lb. |
| 1/10 | 1/8   | 1/6   |

Sown with Rape or Clovers prevents blowing. This is a really valuable plant in pastures, and should be more used. Sheep and cattle are fond of it, and in Spring, when the latter are liable to get blown on young Clover, the Parsley acts as an antidote. It is of biennial duration, but will ripen and scatter seeds enough to keep its place for many years.



Timothy

## TIMOTHY (*Phleum Pratense*).

|      |       |       |        |        |
|------|-------|-------|--------|--------|
| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
| 9½d. | 9d.   | 8½d.  | 8d.    | 7½d.   |

This is undoubtedly one of the finest grasses we have for heavy, rich, moist soils and meadow lands, and also for the shady side of hills, but on sandy or dry soils it is of little or no value. It is an excellent dairying grass, as it produces an abundant supply of succulent herbage, and will stand great extremes of heat or cold. As it is late in starting in Spring, it is a good plan to include Meadow Foxtail with it, as this grass comes away early in Spring, and also likes the same class of land as the Timothy. It is a perennial, coming to maturity in the second year.



## TALL OAT GRASS (*Avena Elatior*).

|      |       |       |
|------|-------|-------|
| 1lb. | 25lb. | 50lb. |
| 2/4  | 2/3   | 2/2   |

A tall-growing variety of the above, and so far as reports go is the better variety for local conditions.

WESTERN WOLTHS—See under Italian Rye.

## YARROW or MILFOIL (*Achillea Millefolium*).

|      |       |
|------|-------|
| 1lb. | 25lb. |
| 3/3  | 3/-   |

Will succeed on the poorest and driest soils, resisting the heaviest droughts. A little is relished by sheep (preventing scouring), and a small quantity (½oz. per acre) is useful in permanent pasture mixtures as a medicinal plant.

## YORKSHIRE FOG (*Holcus Lanatus*).

|      |       |       |        |
|------|-------|-------|--------|
| 1lb. | 25lb. | 50lb. | 100lb. |
| 5¾d. | 5¼d.  | 4¾d.  | 4¼d.   |

A soft grass that is of great value as a pioneer grass in breaking in peat swamps. Sown with Lotus Major, it does remarkably well, and cattle feeding upon it tread the spongy ground into a firmer seed bed for the later introduction of better grasses. It will also thrive on land too wet or sour for better purposes.

Tall Oat Grass (much reduced)



# Yates' Reliable Pasture Clovers

Arranged in Alphabetical Order.  
CLOVERS, ETC., FOR PASTURES.

Delivery F.O.B. or F.O.R., but Yates' pay freight to nearest direct station or port on £1 orders and over.  
Sacks extra at value. Mixed free if required. All prices are nett.

## ALSYKE

(Trifolium Hybridum).

### YATES' FINEST RE-MACHINED—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/7½ | 1/7   | 1/6½  | 1/6¼   | 1/6    |

This Clover is the opposite to Cowgrass and White, in that it is not deep rooting, and therefore does not stand prolonged dry weather, the soil best suiting it being a fairly heavy and wet one, where it will produce an abundance of greatly relished feed. For reclaimed swamps, it is an ideal Clover, and also should be included in all meadow mixtures where the soil is not too light. It is more perennial than Cowgrass, lasting from three to five years. Care should be taken to buy reliable re-machined seed, as most of this comes from Canada, and frequently contains Californian Thistle.

## YATES' COLONIAL COWGRASS AND RED CLOVER

(Trifolium Pratense Perrene).

### YATES' FINEST COLONIAL—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/2½ | 1/2   | 1/1½  | 1/1¼   | 1/1    |

### MONTGOMERY RED—

|      |     |      |      |     |
|------|-----|------|------|-----|
| 2/6½ | 2/6 | 2/5½ | 2/5¼ | 2/5 |
|------|-----|------|------|-----|

### YATES' FINEST IMPORTED—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/1½ | 1/1   | 1/-½  | 1/-¼   | 1/-    |



This much smaller, weaker plant is produce of ordinary poor quality, low vitality, Red Clover Seed.

A Clover that, as Dr. Steller, the noted botanist, says, has contributed more to the advance of agriculture than practically any other plant. It may be said to occupy the same place in Clovers as Ryegrass does among Grasses, producing an abundance of succulent, nutritious feed for stock. It should form a leading part in sowings for permanent pastures, not only because of the large amount of feed if thrown during the first two years, but also on account of the fact that it enriches the soil by the addition of nitrogen secreted by the nodules on the roots. On this account it is sometimes used as a green crop for ploughing in, and also for temporary pastures. The roots are long, so that it stands drought well. The difference in results produced by Yates' Colonial, as against the Ordinary Red Clover, is fully illustrated alongside. Most farmers now realise this, because our sales of this line are enormous.

## CRIMSON CLOVER

(Trifolium Incarnatum).

### RE-MACHINED—

| 1lb. | 25lb. | 50lb. | 100lb. |
|------|-------|-------|--------|
| 9d.  | 8d.   | 7½d.  | 7d.    |

An annual. Very useful for drilling on stubble, either with Western Wolths, Ryegrass, or Italian Ryegrass, when it will produce an enormous crop very early in the following spring. We recommend it for ploughing in as green manure, or using as green feed or hay, which is much relished by stock.



Crimson Clover



Ordinary Red Clover.



Yates' Colonial Red Clover.



The good, strong, robust, heavy growth and large flowers of Yates' Colonial Red Clover.



## EGYPTIAN or BERSEEM CLOVER.

|      |       |       |
|------|-------|-------|
| 1lb. | 25lb. | 50lb. |
| 2/-  | 1/10  | 1/9   |

Though not a proved success in New Zealand, it is recommended as an annual Winter Clover for warm countries where irrigation is practised. Valuable for its green or dried fodder, and as a winter soiling crop for orchards and vineyards. A strong growing annual, with succulent, fleshy stems and broad, soft leaves. The flowers are cream or pale yellow in colour, and are clustered together in a compact, cylindrical spike.

All kinds of stock eat it readily, and it may be given to them at any stage of growth; it does not taint milk in the slightest degree. This Clover will reseed itself in a pasture on good land, and thus becomes practically permanent.

|                     |      |       |
|---------------------|------|-------|
| <b>HAIRY VETCH.</b> | 1lb. | 25lb. |
|                     | 2/-  | 1/10  |

## KIDNEY VETCH

(*Anthyllis Vulneraria*).

|      |       |
|------|-------|
| 1lb. | 25lb. |
| 2/-  | 1/10  |

Kidney Vetch is a useful perennial plant for sheep feed upon calcareous or marshy soils, too poor to grow anything else. It is capable of resisting prolonged drought, and makes nutritious hay, although it is scarcely suited to this purpose, on account of the creeping character of the stems, much of which escapes the mower.

## LOTUS CORNICULATUS

(Birdsfoot Trefoil).

|      |       |       |
|------|-------|-------|
| 1lb. | 25lb. | 50lb. |
| 1/11 | 1/10  | 1/9   |

Strongly recommended for either dry or moist lands, and swamp ground, where it throws an abundance of feed; much relished by all kinds of stock. Should form a portion of all mixtures for permanent pasture. A true perennial, with yellow flowers. Should be heavily stocked, and the plant never allowed to grow rank and coarse. Colour of seed, dark brown.

## LOTUS MAJOR

(Greater Birdsfoot Trefoil).

### PURE IMPORTED SEED—

|      |       |       |        |
|------|-------|-------|--------|
| 1lb. | 25lb. | 50lb. | 100lb. |
| 4/3  | 4/2   | 4/1   | 4/-    |

### LOCAL SEED, containing a little *Angustissimus*—

|      |       |       |     |
|------|-------|-------|-----|
| 1lb. | 25lb. | 50lb. |     |
| 2/10 | 2/9   | 2/8   | 2/7 |

Suited for either dry or moist situations, where it throws an abundance of nutritious feed of excellent quality, greedily eaten by all kinds of stock; does well in this part of New Zealand. The herbage wants to be closely eaten down, and never allowed to grow rank and coarse. This variety grows much taller than the Lotus Corniculatus, and is coming more into favour every year. Farmers in the North and Waikato speak very highly of Lotus Major for sowing on swamps and wet situations, as it seems to have a tendency to dry up the land. Colour of seed, pale green.

## LOTUS HISPIDUS

(Boyd's Clover).

|      |       |       |        |
|------|-------|-------|--------|
| 1lb. | 25lb. | 50lb. | 100lb. |
| 2/1½ | 2/1   | 2/-½  | 2/-    |

A quick-growing Clover, which produces an enormous amount of feed through the greater part of the year. During the summer the herbage dries off, and comes away with the first autumn rains; does well on most of the poorer classes of land.

## LOTUS ANGUSTISSIMUS

(Hairy Lotus).

|      |       |       |        |
|------|-------|-------|--------|
| 1lb. | 25lb. | 50lb. | 100lb. |
| 2/2  | 2/1   | 2/-   | 1/11   |

A species of Lotus closely allied to the well-known Lotus Major, which is doing exceedingly well on the poorer classes of clay and gum lands; it throws a good growth of splendid herbage, greatly relished by all kinds of stock. This variety of Birdsfoot Trefoil is growing very well in the Waikumete district, where it seems to thrive naturally, and is highly spoken of by settlers. Coming greatly into favour as a soiling crop to dig in for green manure, owing to the plant absorbing large quantities of nitrogen from the atmosphere. To get the best results, it, like everything else, must be top-dressed.



A Fine Crop of Clover.





## Better Grasses, More Stock

In sowing grass you aim to leave it down for some years. Even if only one extra beast is carried on every 10 or 12 acres it will soon pay for the better mixture and heavier sowing. Some of the new Certified White Clover should be sown to introduce it. We consider this will possibly give a greater improvement in carrying capacity than Certified Rye, which is not very palatable to stock. The photo alongside shows some of our Directors and Agricultural Department Officers inspecting a field of Certified White.

## What is it worth to be Healthy?

**YES, THE ANSWER IS OBVIOUS, BUT—**

the question of Health applies just as much to our stock and pastures, from which we get our living; but sometimes it is a great temptation for some to save to-day something for which everyone in the district will suffer for to-morrow. Think it out on the following basis, and we think you will feel much stronger:—

Just think of Ragwort, Dodder, or Californian Thistle. No; you don't like to think of it.

**A 99% PURITY GUARANTEE MEANS NOTHING; YOU MUST HAVE 100% PURITY AS REGARDS THE ABOVE WEEDS.**

**Less than 1% of a bad weed like Ragwort in Grass Seed would produce over 100,000 patches of Ragwort to the acre. Because you sow about 30lbs. seed per acre, and 1lb. seed contains  $\frac{1}{2}$  million seeds, the sum is:—**

**30lbs. seed  $\times \frac{1}{2}$  million seeds to the lb.  $\div 1\% = 150,000$ .**

### MELILOTUS ALBA

(Bokhara Clover).

| 1lb. | 25lb. | 50lb. |
|------|-------|-------|
| 1/7  | 1/6   | 1/5   |

This is often and better known as the Bokhara Clover. It is a perennial, and produces a large bulk of leaves and stem which have a fragrant odour.

### MELILOTUS OFFICINALIS

(King Island Clover).

| 1lb. | 25lb. | 50lb. |
|------|-------|-------|
| 1/4  | 1/3   | 1/2   |

Usually an annual, although sometimes biennial, growing erect from 2 to 3 feet in height, with trifoliate leaves resembling those of lucerne. The flowers are small but numerous, borne in long racemes, and of a bright yellow. The Melilotus is hardy, and succeeds well on reclaimed and sandy areas, near the sea coast.

### STRAWBERRY CLOVER

| 1lb. | 25lb. | 50lb. |
|------|-------|-------|
| 6/-  | 6/-   | 6/-   |

A valuable variety for damp lands, producing quantities of fattening herbage. It is quite distinct in appearance from all other varieties, being of a trailing habit, and does well on the poorer heavy soils, and on lands subject to floods; it is distinctly a Clover for its special purpose in wet permanent pastures, as owing to the high price of the seed, a farmer can only afford to sow  $\frac{1}{4}$  lb. or less per acre, and allow it to spread itself. The seed head has a distinct appearance of a brown strawberry, hence the name; it is not a prolific seeder, and the seed is difficult to remove from the head, so it will always be a high price.



# SUBTERRANEAN CLOVER

(*Trefolium Subterranean*).

## THE PASPALUM, RYE, SUBTERRANEAN WHITE ASSOCIATION.

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/11 | 1/10½ | 1/10  | 1/9½   | 1/9    |

Subterranean Clover is an annual, but, as it re-seeds itself readily, it may be treated as a perennial. It is very well known in the Mangere district, Auckland, where it forms a considerable part of the rich pastures of that district, and used often to be called Mangere Clover for that reason. It throws a large amount of nutritious feed, much liked by stock, and stands grazing well. Its name is derived from its distinct habit of twisting and forcing its seed-head downwards into the ground. **A Great Future Pasture Combination** is Paspalum, Perennial Rye, Subterranean, and White Clover. Broadly speaking, all that is required in this is to top-dress with Phosphates. Phosphates make the Clover grow, and the Clover supplies the very necessary Nitrogen for the Paspalum.

If you already have all your pastures sown down, and do not want to plough them up, the Subterranean Clover can easily be introduced by surface sowing through the top-dresser when you are doing your top-dressing. If this is not convenient, a few pounds carried in your pocket when riding round the farm, and scattered, will introduce it.



A Fine Specimen of Subterranean Clover

## TREFOIL, YELLOW ENGLISH

(*Medicago Lupulina*).

| 1lb. | 25lb. | 50lb. | 100lb. |
|------|-------|-------|--------|
| 9½d. | 9d.   | 8½d.  | 8d.    |

Sometimes called Black Medick, growing well in light, dry soils containing lime. Has a short tap root, enabling it to resist drought fairly well. On account

of its trailing habit, it makes a good "bottom grass" in a mixed pasture, but it is not so good for hay. Although a biennial, it will in most cases seed itself, becoming practically permanent. One of the principal uses is for surface sowing on limestone country, where it will come away very early in the spring, but has little aftermath in the autumn.

## WHITE CLOVER (*Trifolium Repens*).

The Main Clover in all Permanent Pastures.

### GOVERNMENT CERTIFIED—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 3/-  | 2/11  | 2/10  | 2/9    | 2/8    |

### YATES' FINEST COLONIAL (Permanent type)—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/8½ | 1/8   | 1/7½  | 1/7¼   | 1/7    |

### ORDINARY COLONIAL—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/7½ | 1/7   | 1/6½  | 1/6¼   | 1/6    |

### YATES' FINEST IMPORTED—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/2½ | 1/2   | 1/1½  | 1/1¼   | 1/1    |

### ORDINARY IMPORTED—

| 1lb. | 25lb. | 50lb. | 100lb. | 200lb. |
|------|-------|-------|--------|--------|
| 1/1½ | 1/1   | 1/-½  | 1/-¼   | 1/-    |

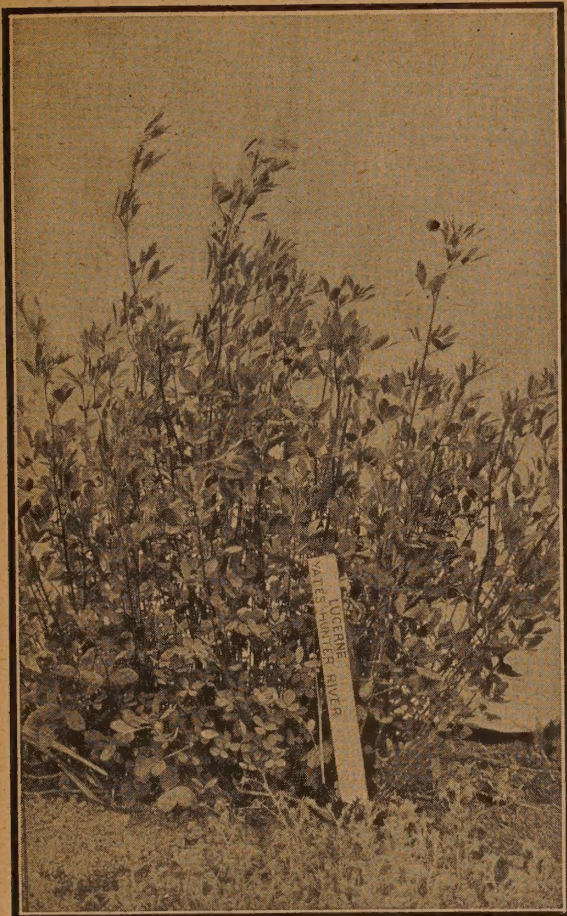
**WHITE CLOVER** is possibly the most important of the Clovers, owing to its high quality and persistent habit. Indeed, a pasture where Ryegrass and White Clover predominate is now looked upon as the most desirable one to ultimately secure. This can be done by careful depasturing and top-dressing with suitable manures, and probably lime. Its creeping habit and rooting at the nodes of the prostrate stem enable it to ultimately cover the ground between the grasses and become permanent on suitable land, with proper treatment, and it should be included in all mixtures for permanent pastures. There are, however, different strains of White Clover, it having been found that White saved from plants in very old pastures is more permanent, but, owing to the difficulty of saving, it being a shy seeder, the seed is a bit more expensive. We have secured seed saved from a New Zealand old pasture; we recommend it for use in a permanent mixture. White Clover seed being small, and usually of excellent growth, one or two pounds per acre in a mixture is sufficient.

The two Imported White Clovers quoted above contain a quantity of Red-stained Seed. This is required by our Government, and greatly helps farmers to distinguish Imported from our better New Zealand-saved Seed.



# Yates' Lucerne

Every year this King of Fodder crops increases in popularity. Until lately its great worth as a fodder crop has not been realised. Lucerne can be grown practically anywhere, provided that the soil is sweet and contains lime freely. It should be sown 12lb. to 14lb. to the acre, using every coulter, in early autumn and late spring, hard frosts being apt to kill the young plants. In about four to five months it will be ready for the first cut, which will, however, not be as heavy as the following ones. We have not room here to fully describe the growing and care of Lucerne, but we have issued a booklet, a copy of which we shall be pleased to forward to anyone intending to grow this crop.



Lucerne—Yates' Hunter River.

## YATES' SELECTED MARLBOROUGH.

| 1lb. | 25lb. | 50lb. | 100lb. |
|------|-------|-------|--------|
| 1/8  | 1/7   | 1/6½  | 1/6    |

Being seed specially saved from selected paddocks under our own supervision, so that we can guarantee your getting true Broad-leaved upright, unadulterated Marlborough Seed, free of dodder, machined by ourselves. Much of the ordinary Marlborough seed now contains dodder owing to many growers sowing imported seed containing dodder from which seed has now been saved.

## YATES' EXTRA-MACHINED BROAD-LEAVED HUNTER RIVER.

| 1lb. | 25lb. | 50lb. | 100lb. |
|------|-------|-------|--------|
| 2/5  | 2/4   | 2/3   | 2/2    |

We have the enviable distinction of being, through our Sydney house, the largest dealers of Lucerne in Australasia, and are therefore in a position to offer the genuine Hunter River variety, free from dodder, re-machined by ourselves. This variety has headed the list both at the Ruakura trials in New Zealand, and the Wagga Wagga trials in New South Wales. Customers are warned against buying cheap imported seed, much of which cannot be guaranteed true upright type and free of dodder.

Available from June onwards.

Price on application.

Pig breeding, done scientifically, is going to be one of the big primary industries of New Zealand.

Enormous numbers of Pigs are raised and fattened in America, and there it is largely done by grazing them on fodder crops produced on the same farm that the Pigs are fattened on; it is an expensive method to buy grain meals and whole grain, etc., for feeding.

Artichokes have been proved to be one of the finest crops for fattening pigs, as well as one of the most economical, the pigs doing their own digging by feeding off in "breaks."

Our photo shows pigs grazing off Artichokes in breaks. This owner has found that even the little pigs thrive well on feed like Artichokes.

Artichokes should be sown early in Spring at the rate of about 10cwt. of Tubers per acre; plough them in in

rows about two to three feet apart, together with about 4 to 5 cwt. of A.Y. Potato Manure or its equivalent; they will be ready in nine months, and will produce anything from 20 to 40 tons per acre.



Pigs Grazing off Artichokes in Breaks.

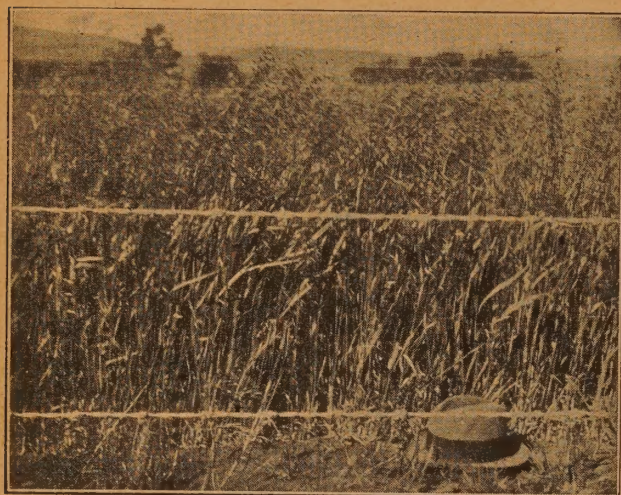
Arthur Yates & Co., Ltd., Box 1109, Auckland



# Grain and Fodder Crops

The increase of production on most farms in New Zealand depends largely upon the increased growth of root and fodder crops as supplementary food for stock, and this applies in a marked degree to the Auckland province, where such utter dependence is placed upon pasture and pasture alone.

Even in New Zealand, called "God's Own Country," we have periods when there is often a shortage of food. These times are generally late summer and late winter. Many farmers now grow areas of some of the following, so as to be able to carry the maximum amount of stock all the year round and treat them well; they know it pays.



A Fine Crop of Algerian Oats.

## YATES' BLACK SKINLESS BARLEY.

| 1 bus. | 1 sack.<br>(Per Bus.) | 10 bus. | 20 bus. |
|--------|-----------------------|---------|---------|
| 8/9    | 8/6                   | 8/3     | —       |

**Yates' Black Skinless Barley**—This variety stools out well, and will stand feeding off two or three times. Sow three bushels per acre. On rich land the returns from Black Barley are far and away ahead of Cape.

## CAPE BARLEY.

| 1 bus. | 1 sack.<br>(Per Bus.) | 10 bus. | 20 bus. |
|--------|-----------------------|---------|---------|
| 7/-    | 6/8                   | 6/6     | —       |

**Cape Barley** is similar to the above variety; is often sown in conjunction with Tares or Peas, using one bushel of Tares or Peas to two bushels of Barley. Very hardy.

## RYECORN.

| 1 bus. | 1 sack.<br>(Per Bus.) | 10 bus. | 20 bus. |
|--------|-----------------------|---------|---------|
| 8/6    | 8/3                   | 8/-     | 7/9     |

**Ryecorn** is most useful for supplementary feed, sown by itself or in conjunction with Oats, Barley, Tares or Peas, etc.

## ANNUAL LUPINS (BLUE).

| Per lb. | ¼ bus. | 1 bus. | 10 bus. | 20 bus. |
|---------|--------|--------|---------|---------|
| 4d.     | 2/3    | 7/9    | 7/6     | 7/3     |

These are at last coming into their own as a manure.

## ALGERIAN OATS

These are greatly favoured as a catch crop, as they do not take the rust to any great extent. They are often sown with Tares or Peas at the rate of two bushels of Oats to one bushel of Tares or Peas.

Our Samples are all Specially Picked Lines, Re-Machined

## YATES' EXTRA SPECIAL RE-MACHINED ALGERIAN OATS

| 1 bus. | 1 sack.<br>(Per Bus.) | 10 bus. | 20 bus. |
|--------|-----------------------|---------|---------|
| 6/3    | 6/1                   | 5/11    | 5/9     |

The above are extra specially good lines; re-machined by ourselves.

## LINCOLN COLLEGE ALGERIANS.

| 1 bus. | 1 sack.<br>(Per Bus.) | 10 bus. | 20 bus. |
|--------|-----------------------|---------|---------|
| 6/3    | 6/-                   | 5/10    | 5/8     |

Are a selected strain, produced by Lincoln College, Canterbury

## YATES' SOUTHERN ALGERIAN OATS.

| 1 bus. | 1 sack. | 10 bus. | 20 bus. |
|--------|---------|---------|---------|
| 6/2    | 5/11    | 5/9     | 5/7     |



Partridge Field Peas

Grain and Fodder Crop Seeds are quoted F.O.R. Auckland. Freight extra. Sacks free for sack lots

Arthur Yates & Co., Ltd., Box 1109, Auckland



# Grain and Fodder Crops

One of the greatest assets a farmer can have is a suitable forage crop coming in when other feed is scarce, or in supplementing the ordinary pasture feed. In addition, the change of feed has an appreciable effect on the fattening and milk production of the stock. Apart from the value of the feed produced, a catch crop is a soil improver, particularly if a leguminous crop, such as Tares, Clover or Peas, is used.

## VETCHES OR TARES (Scotch or Black).

| 1lb. | $\frac{1}{4}$ bus. | 1 bus. | 10 bus. | 20 bus. |
|------|--------------------|--------|---------|---------|
| 5d.  | 4/-                | 13/9   | 13/-    | —       |

**Vetches or Tares**—One of the Pea family; very hardy; makes very nutritious feed when sown with Oats, Barley, Ryecorn, etc. Sow one bushel of Tares to two bushels of Oats, etc. (See photo. alongside.)

## BLUE PRUSSIAN PEAS

| 1lb. | $\frac{1}{4}$ bus. | 1 bus. | 10 bus. |
|------|--------------------|--------|---------|
| 3d.  | 2/9                | 9/3    | 9/-     |

**Blue Prussian Peas**—These make the best of fattening feed. Sow  $2\frac{1}{2}$  to  $3\frac{1}{2}$  bushels, and feed off when nearly ripe. Stock need plenty of water when feeding off when just about ripe.

## PARTRIDGE OR GREY PEAS.

| 1lb. | $\frac{1}{4}$ bus. | 1 bus. | 10 bus. |
|------|--------------------|--------|---------|
| 2d.  | 2/6                | 8/6    | 8/3     |

**Partridge Peas**—Used for the same purpose as Blue Prussians. They are harder than Blue Prussian Peas, and consequently in cooler districts more useful for autumn sowing. Also used in conjunction with Grain, at the rate of  $1\frac{1}{2}$  bushels of Peas to  $1\frac{1}{2}$  bushels of Oats, etc.

## TUSCAN SEED WHEAT

| 1 bus. | 1 sack.       | 10 bus. | 20 bus. |
|--------|---------------|---------|---------|
|        | (Per Bushel.) |         |         |
| 8/9    | 8/7           | 8/5     | 8/3     |

**Tuscan Wheat**—This is often sown to be fed off for green feed, and afterwards harvested for grain for fowl feed.



Scotch Tares or Vetches.  
CATTLE CABBAGE.

| 1oz. | $\frac{1}{4}$ lb. | 1lb. | 3lb. | 7lb. |
|------|-------------------|------|------|------|
| 1/6  | 3/6               | 8/-  | 7/6  | 7/-  |

**Cattle Cabbage**—For the dairy farmers, this crop is fast growing in favour, as it will produce from 30 to 40 tons of fodder per acre. Sow 12 ozs. per acre, and transplant to  $2\frac{1}{2}$  feet apart. Will produce enormous cabbages. Autumn is a good time to sow them after the fly has gone.

All the above-mentioned seeds, like every other seed we sell, are saved from specially selected crops; extra machined, and are also of excellent growth. We may say that these prices are the lowest possible for seeds of the highest quality.



Reliable Seed Means a Good Crop. Compare the Two Samples.

Arthur Yates & Co., Ltd., Box 1109, Auckland



# Yates' Turnips

Yates' Turnips are all put up in sealed 1lb. packets, and are freight paid to nearest station on £1 orders.

**YATES' PURPLE TOP YELLOW ABERDEEN**—Is large and very productive yellow-fleshed field Turnip of excellent quality; is a good keeping variety, and the favourite Aberdeen.

**YATES' GREEN TOP YELLOW ABERDEEN**—Similar to above, except that it has a green top.

## YATES' SOFT TURNIPS—

| 1lb. | 5lb. | 10lb. |
|------|------|-------|
| 2/7  | 2/6  | 2/5   |

**YATES' DEVONSHIRE GREYSTONE**—Is a favourite white-fleshed Turnip. It produces a greater yield per acre in a given time than practically any Turnip.

**YATES' HARDY GREEN GLOBE**—Very similar to above; is also a favourite.

**YATES' PURPLE TOP MAMMOTH**—A very large, handsome purple top, early, white-fleshed Turnip; a great favourite.

**YATES' IMPERIAL GREEN GLOBE**—One of the earliest and hardiest of the white-fleshed Turnips; a heavy yielder, and a favourite sort.

**YATES' LINCOLNSHIRE RED**—A desirable and good cropping variety.

**YATES' GREEN TOP SIX WEEKS**—As its name implies, is the earliest variety, and is most useful as a catch crop for quick feed.

## YATES' ABERDEEN TURNIPS—

| 1lb. | 5lb. | 10lb. |
|------|------|-------|
| 3/-  | 2/11 | 2/10  |



"Purple Top Mammoth,"  
Grown by Hobson Farm, Ltd., Wharepapa.



## Yates' Meals and Feeding Grains

*Help Your Cows and Stock by giving them the Best!*

For many years we have been preparing grain meals of different kinds, and have established up-to-date machinery for grinding and crushing cheaply. Being constantly in touch with the growers of Peas, Barley, Maize, etc., we are able to grow grain very cheaply. This grain we make into **Reliable** Meals at low prices. We make a point of grinding all our meals into a very fine powder, as they are then more easily digested by stock. As with seeds and manures, **quality is our aim**. You may buy cheaper meals, but you cannot buy better, because we use whole grain, not refuse.

**YATES' GRAIN MEAL** is ground to the finest degree of any meal on the market, so as to eliminate as far as possible the husk of the grain that is so objectionable.

|                    | 50lb.     | 100lb.    | 200lb.    | Ton.     |
|--------------------|-----------|-----------|-----------|----------|
| Yates' Grain Meal  | 4/3       | 8/3       | 15/6      | £ 7/-    |
| Yates' Pea Meal    | 5/6       | 10/6      | 20/-      | £ 9/10/- |
| Yates' Barley Meal | 6/3       | 12/-      | 23/-      | £10/10/- |
| Yates' Maize Meal  | 8/6       | 16/-      | 31/-      | £15/-    |
| Moose Meal         | 7/9       | 14/3      | —         | £13/-    |
| Moose Nuts         | 7/3       | 12/9      | —         | £11/10/- |
| Yates' Wheat Meal  | 7/-       | 13/-      | 25/-      | £12/-    |
| Meat Meal          | 28lb. 3/3 | 56lb. 5/9 | cwt. 10/- |          |
| Meat & Bone Meal   | 28lb. 3/3 | 56lb. 5/6 | cwt. 9/6  |          |

Per bus. 20 bus.

|                                           |           |                      |
|-------------------------------------------|-----------|----------------------|
| Yates' Kibbled Peas—50lb to bus.          | 6/9       | 6/6                  |
| Yates' Kibbled Maize—50lb. to bus.        | 7/9       | 7/6                  |
| Crushed Oats—36lb. to bus.                | 4/9       | 4/7                  |
| Poultry Scratchings—40lb to bus.          | 5/6       | 5/4                  |
| Crushed Linseed                           | 14lb. 3/9 | 28lb. 5/6 1cwt. 19/- |
| Leslie Cattle Licks—1/6 each; Case of 20, | 25/-      |                      |
| Challenge Salt Licks—2/- each; Case of 6, | 10/6      |                      |
| Loose: 28lb. 4/3                          | 56lb. 6/9 | 1cwt. 12/6           |
| Cod Liver Oil—7/3 gallon.                 |           |                      |

FEED OATS, WHEAT AND MAIZE always in stock at Market Rates.

Delivered F.O.B. or F.O.R. Auckland. Freight Extra. Sack lots, Sacks Free. All Prices Net.

Arthur Yates & Co., Ltd., Box 1109, Auckland



# PHOSFULL

The Popular Non-Acid Top-Dressing Manure for Producing High Analysis & Solubility at the Lowest Cost & Disease Resisting • **Superfine Cream**



## IT'S THE KIND OF GRASS THAT COUNTS!

The photo above shows a close-up view of the Clover-Ryegrass-Cocksfoot combination that is produced as the result of using **PHOSFULL**. White Clover is particularly noticeable in the early stages of growth, before the Ryegrass gets away.

Later in the year the Ryegrass and cocksfoot predominate. This is one of the advantages that **PHOSFULL** has over Basic Slag, which is inclined to encourage the Clover too much, to the detriment of the grasses.

## EIGHT CONVINCING REASONS WHY PHOSFULL IS SO POPULAR

1. **PHOSFULL** has given wonderful results throughout New Zealand, England, and the Continent. Over a quarter of a million acres were top-dressed with **PHOSFULL** quality Basic Phosphate in one year recently. Sales in New Zealand of 300 tons in 1928, 12,000 tons in 1929, and 37,000 tons in 1930, indicate its growing popularity.
2. **PHOSFULL** is quick and much more lasting than Slag or Super., because it is a higher-grade manure, containing well over 25 per cent. more units of Phosphate. It is also much cheaper per soluble unit than any imported Basic Slag or locally made Super.
3. **PHOSFULL** is a non-acid Manure that gives wonderful results wherever Slag has been used, especially in Auckland and Taranaki.
4. **PHOSFULL**, besides containing over 25 per cent. more Phosphates than Super., or Slag, has the liming value of a ton of Lime, which cures acidity in sour soils, and, being non-acid, it tends to prevent disease in stock. With **PHOSFULL** you avoid the cost and bother of having to put on Lime so often.
5. **PHOSFULL** is more finely ground than almost any other manure. Air separation makes it exceedingly fine and free of clinker. Its fairly quick results are partly due to its fine grinding and soft nature. The dust of **PHOSFULL** is less harmful to stock than most manures, like Slag, which is a cement. **PHOSFULL** mixes well in the drill with all manures, and does not set into a cement like Slag if it gets wet.
6. **PHOSFULL**, on analysis, is over £2 per ton cheaper than 17/20 per cent. Slag. The soluble units of Phosphoric Acid, which are what you buy, only cost 3/11 in **PHOSFULL**, but 7/6 in 17/20 per cent. Slag, and 4/- in 44/46 per cent. Super.
7. **PHOSFULL** must not be confused with **Moroccan**, the so-called locally-ground North African.
8. The **PHOSFULL** Brand only appears on bags containing 26 per cent. to 29 per cent. Phosphoric Acid, 95 per cent. fineness, through 100-mesh sieve, and 90 per cent. solubility modified test. There is only one grade of **PHOSFULL**—the Best. Delivery in good order in small, new bags, 16 to the ton, is guaranteed.

## PHOSFULL PRICE

Per ton, Free on Rail or Boat,  
for delivery ex full boats in  
February, March and April

**£4/14/6**



# EXTRACTS

From the valuable book on Basic Slag by  
Dr. Scott Robertson, D.Sc., Dunelm, F.I.C.

Head of the Chemical Research Division, English Ministry of Agriculture, and Chief Agricultural Analyst for Northern Ireland. With preface by SIR JOHN RUSSELL, D.Sc., London, F.R.S., Director of Rothamstead, who is one of the highest authorities on Agricultural Science and Development, and who visited New Zealand a year or so ago on behalf of the British Government.

Talking on Slag-making, Dr. Scott Robertson says: "THE PRACTICAL RESULT IS THAT THE COMPOSITION OF BASIC SLAG IS DETERMINED BY THE CONDITIONS UNDER WHICH THE STEEL-MAKER IS WORKING, and the total producible is regulated by the demand for steel.

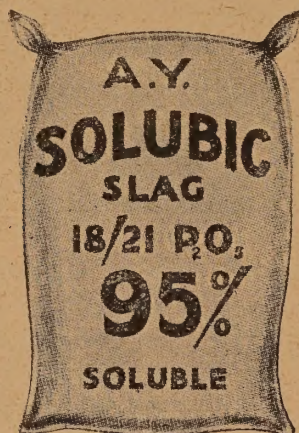
"High-grade highly Soluble Slag can only be obtained by pouring the Slag immediately before the addition of fluorspar (this is the substance largely responsible for the decrease in the solubility of open hearth Slag). THE PRODUCTION OF HIGH-GRADE HIGH SOLUBLE SLAG HAS FALLEN TO ONE-TENTH OF THE AMOUNT NECESSARY TO SATISFY THE DEMANDS OF THE FARMER.

MORE SOLUBLE  
PHOSPHATES

MUCH BETTER  
RESULTS

New Zealand has  
been taking what  
other countries  
refuse.

We brand 95%  
SOLUBLE on  
the SOLUBIC  
Slag bags, be-  
cause it is a  
fact. Some  
manufacturers  
do not. Why?



FAR GREATER  
SOLUBILITY

COSTS LESS  
PER SOLUBLE UNIT

In only asking you to pay for the Soluble units, we are pioneers in New Zealand, it is not, however, a new idea. So important is Solubility in Slag, that some countries, including Africa, have passed Acts of Parliament prohibiting the importation of Low Solubility Slag. The Buying per Soluble unit idea has been in force in Belgium, France, Poland, Denmark, etc., for years. We in New Zealand, having more carriage costs, should be more insistent than any on HIGH GRADE AND HIGH SOLUBILITY SLAG, LIKE SOLUBIC AND HESKETT, WHICH ARE 95% SOLUBLE.

Statement by  
Rothamsted  
Experimental  
Station Report:

"The conclusion is that the Low Soluble Slag differs not only in the amount, but also in the kind of its action from High Soluble Slag, and, however much we use, it would not come equal to the High Soluble Slag."

"In all unbiased official grazing tests of Top-dressed Pasture, High-grade Basic Slag of all manures gave the largest live weight gains in stock and most profitable net returns on money spent."

Statement by  
Board of Agriculture  
Permanent Basic Slag  
Committee:

"Low Soluble Slag behaves differently, and cannot be raised to the level of performance of the other simply by increasing the dressing."

Unlike Super., Basic Slag contains non-acid Phosphates and Lime. One ton of high-grade Slag contains about as many Phosphates as Super., and, in addition, has the Liming value of one ton of Lime as well.

FOUR  
OUTSTANDING  
FACTS



Faster and STILL FASTER RESULTS are what you want. SOLUBIC SLAG, with its 95% Solubility, is the QUICKEST-ACTING IMPORTED SLAG that New Zealand has ever seen.

As regards quick action, there is nearly as much difference between SOLUBIC and ORDINARY SLAG as there is between the present-day motor and the old-time trap.

## Anyone Can Grow Grass in September

Below are given details of the Price per Ton, together with the Analysis, Solubility, Guarantee, and Value per Soluble Unit of Phosphate, of a number of well-known brands of Slag:—

| 1                   | 2                                          | 3                                                                               | 4                                                          | 5                                                                                                     | 6                                                                                                                               |
|---------------------|--------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Brand.              | Cash Price<br>Per Ton,<br>Free on<br>Rail. | Guaranteed<br>Analysis,<br>Phosphoric<br>Acid,<br>P <sub>2</sub> O <sub>5</sub> | Solubility<br>by Usual<br>Official<br>Standard<br>2% Test. | Dividing No. 3<br>Column by No. 4<br>Column gives the<br>Number of<br>Soluble Units of<br>Phosphoric. | Dividing No. 2<br>Column by No. 6<br>Column gives the<br>Cost per Unit of<br>Soluble Phos-<br>phoric, which is<br>what you buy. |
| Solubic Slag 18/21% | £5 8 0                                     | 18/21%                                                                          | 95%                                                        | 17 1-10                                                                                               | 6/3                                                                                                                             |
| 17/20% .. .. .      | £5 0 5                                     | 17/20%                                                                          | 80%                                                        | 13½                                                                                                   | 7/7                                                                                                                             |
| English .. .. .     |                                            | 14/15%                                                                          | 85%                                                        | 12                                                                                                    | 7/10                                                                                                                            |
| 20/22% Slag .. .. . |                                            | 20/22%                                                                          | 80%                                                        | 16                                                                                                    | 7/3                                                                                                                             |

On analysis, which is the correct way to buy any Manure, Solubic is at least 15/- per ton better value than 17/20%, f.o.r. Auckland; but by the time you have paid the cost of freight, cartage, handling, and spreading, SOLUBIC SLAG IS EVEN BETTER BUYING STILL, due to it being higher grade and containing more Soluble Phosphates per ton.

## 7 Reasons why Solubic is Better

1. Solubic Slag is the most Soluble Imported Slag procurable.
2. Solubic Slag is Cheapest per Soluble Unit of Phosphate.
3. Solubic Slag, on analysis, is over 15/- better value than 17/20% Slag, F.O.R.; but, as it contains many more Soluble Units than 17/20% Slag is over 20/- per ton better value when the cost of freight, cartage and spreading has been paid.
4. Solubic Slag is guaranteed 95% Soluble; 17/20% Slag is only guaranteed 80% Soluble... ..
5. Solubic Slag is packed in new double bags, and well sewn, good delivery being guaranteed.
6. Solubic Slag is free of clinker and has the liming value of a ton of lime.
7. Solubic Slag is quicker than any other Imported Slag.

## Although we Recommend Solubic Slag, we sell all Brands of Basic Slag

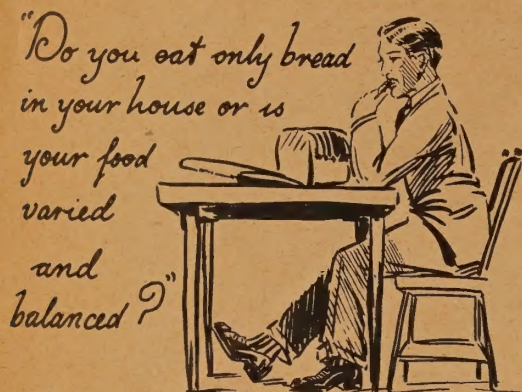
|                                                |         |
|------------------------------------------------|---------|
| SOLUBIC 18/21%, guaranteed 95% Soluble .. .. . | £5 7 6  |
| DIAMOND BRAND 17/20 Slag .. .. .               | £5 3 0  |
| TRIFOLIUM BRAND 17/20 Slag .. .. .             | £5 3 0  |
| CROWN or other 20/22% Slag .. .. .             | £5 16 0 |
| ALBERT or other 15% Slag .. .. .               | £4 14 0 |

All the above are quoted F.O.B. or F.O.R. Auckland, for delivery ex full boats due February, March and April.



# POTASSIC PHOSFULL the Best Value in Balanced Manures

*Farmers to-day want a High-Grade, but Low-Priced, Manure that contains large quantities of Soluble Lime, Phosphates and Potash. Potassic Phosfull fills this want.*



*Potassic Phosfull is balanced  
to suit your stock!*

*Why is there so much trouble  
among present-day dairy herds?*

*It is largely due to unbalanced  
food.*

*The three essentials—Phosphates,  
Potash and Lime—are all present in  
large quantities in POTASSIC  
PHOSFULL.*

## What is Potassic Phosfull? and How is it Made?

POTASSIC PHOSFULL is a mixture of Phosfull and high-grade Potash. It contains large quantities of Phosphates, Potash and Lime, and is therefore a very well-balanced mixture, specially useful for Autumn Top-dressing. The Potash is mixed with the raw Phosfull before grinding, and they are both ground together by the air separation process machinery, the same as is used in the manufacture of the now well-known 26/29% Phosfull. This method of grinding makes it possible to produce an extremely fine powder, which will give quick and yet lasting results.

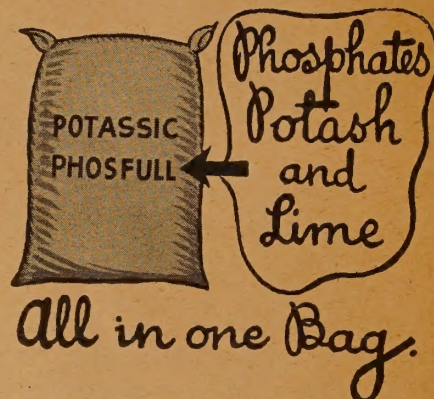
## What do Official Statements tell us!

*The Celebrated Cawthron  
Institute, Nelson, states:*

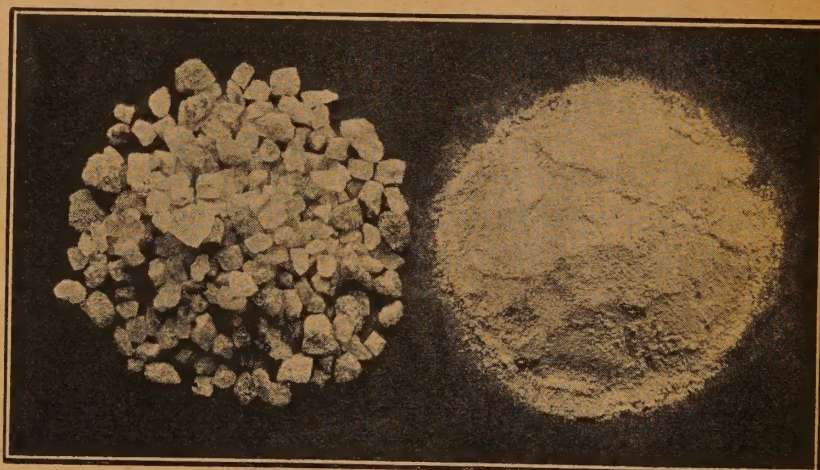
Pasture grasses from plots with complete Potash manures were more suitable for cows than grass plots without Potash.

*The Head of the Taranaki  
High School Farm Trials  
states:*

Plots that received Potash showed a higher percentage of clovers, and were a healthy colour; poor weed grasses decreased; high value grasses were much in evidence.



If you leave the gate open, you will never have any long grass in the **POTASSIC PHOSFULL PADDOCK**, because stock prefer Potassic Phosfull to anything else.



*Coarse: 30% Potash.*

*Fine: Potassic Phosfull*

*The above photo is very striking, as it shows the extreme fineness of grinding of Potassic Phosfull, as compared with the coarseness of 30% Potash. Potash in a finely ground state, such as Potassic Phosfull, can be much more evenly spread.*

## Potassic Phosfull Price

Per ton F.O.R.

## £5/15/0



# A.Y Mixed MANURES Result in Increased Crops



We have had a long experience in mixing Manure for special crops, having had the advantage of practically testing various combinations of Manures upon the crops and pastures of our own Seed Farms. The Mixtures, therefore, that we send out under the brand of A.Y. are the result of this practical experience.

## A.Y. GRASS AND TOP-DRESSING MANURE.

**Ton, £5/13/-; 5cwt., 30/6; 1cwt., 6/6 Cash.**

Contains 45% Phosphate of Lime, 2.40% Ammonia, and 1.12% Potash. We guarantee it under the Fertilizers Act to contain 19.60%  $P_2O_5$ , 1.06% K20, and 1.83% N. We can strongly recommend it both for top-dressing old pastures and for use when sowing down new grass.

## A.Y. GREEN FEED MANURE.

**Ton, £5/17/6; 5cwt., 31/-; 1cwt., 6/6 cash.**

It is high in Phosphates and Ammonia, containing 44% phosphate of Lime, 3.21% Ammonia, and .93% Potash. We guarantee it under the Fertilizers Act to contain 2.28% N, 19%  $P_2O_5$ , and .88% K20. We can strongly recommend it for all green feed crops.

## A.Y. MANGOLD AND ROOT MANURE.

**Ton, £6/1/6; 5cwt., 32/6; 1cwt., 6/9 cash.**

It contains 40% Phosphate of Lime, 2.40% Ammonia, and 3.75% Potash. We guarantee it under the Fertilizers Act to contain 1.83% N, 17.30%  $P_2O_5$ , and 3.56% K20. This manure has given splendid results.

## A.Y. POTATO MANURE.

**Ton, £6/5/-; 5cwt., 33/6; 1cwt., 7/- Cash.**

It contains 44% Phosphate of Lime, 2.40% Ammonia, and 4.50% Sulphate of Potash, and we guarantee it under the Fertilizers Act to contain 1.83% N, 18.85%  $P_2O_5$ , and 2.30% K20. We have made up this mixture for years.

## A.Y. TURNIP AND RAPE MANURE.

**Ton, £5/14/-; 5cwt., 30/6; 1cwt., 6/6 Cash.**

The mixture contains 45% Phosphate of Lime, 2.40% Ammonia, and 1.12% Potash. We guarantee it under the Fertilizers Act to contain 19.60%  $P_2O_5$ , 1.78% N, and 1.05% K20.

## A.Y. OAT AND GRAIN MANURE.

**Ton, £5/12/6; 5cwt., 30/6; 1cwt., 6/6 Cash.**

It contains 45% Phosphate of Lime, 2.40% Ammonia, 1.12% Potash. This is guaranteed under the Fertilizers Act to contain 1.80% N, 19.60%  $P_2O_5$ , and 1.05% K20.

## A.Y. PEA, BEAN AND CLOVER MANURE.

**Ton, £5/10/-; 5cwt., 30/6; 1cwt., 6/6 Cash.**

Contains 48.50% Phosphate of Lime, 1.27% Ammonia, and 1.50% Potash. We guarantee it under the Fertilizers Act to contain 1.15% N, 20.85%  $P_2O_5$ , and 1.42% K20. We can recommend this with every confidence.

## A.Y. ORCHARD MANURE.

**Ton, £6/-/-; 5cwt., 31/6; 1cwt., 6/6 Cash.**

Is rich and lasting, containing 40.00% Phosphate of Lime, 2.40% Ammonia, and 3.75% Potash. We guarantee it under the Fertilizers Act to contain 1.83% N, 17.30%  $P_2O_5$ , and 3.55% K20. We can strongly recommend it as an efficient manure for fruiting orchards.

## A.Y. SUPERPHOSPHATE.

**Ex Works: Ton, £4, less 4/- Ton Cash in Month.**

**Ex Store: 5cwt., 22/6; 1cwt., 5/- Cash.**

Made by dissolving Nauru or other high-grade ground Rock Phosphate with Sulphuric Acid, making it soluble in water, and quick acting. If Lime is not present and the soil sour, Super. will make soils more sour.

## A.Y. BASIC SUPER.

**Ex Works: Ton, £4/2/-, less 4/- Ton Cash in Month.**

**Ex Store: 5cwt., 24/-; 1cwt., 5/3 Cash.**

This is Superphosphate with the acid neutralised by the addition of Lime, etc.

## POTASSIC SUPER.

**Ex Works: Ton, £4/14/-.**

**Ex Store: 5cwt., 28/6; 1cwt., 6/6 Cash.**

This is made of 95 parts of 44/46% Super. and 5 parts of Sulphate of Potash. It is an acid manure, as well as a dear manure per unit of contents.

The last three are delivered F.O.R. Westfield or Te Papapa. For F.O.B. Onehunga and Auckland prices add 5/- per ton, or for ex Store prices add 5/- per ton, or for ex Store F.O.B. or F.O.R. prices add 7/6 per ton. All packed 12 to ton, 2/6 extra for 16 to ton. All others are F.O.B. or F.O.R. Auckland, and packed 16 to ton.

All the above are Delivered F.O.B. or F.O.R., Auckland. See Terms on Back Page.





With small 1cwt. bags, a schoolboy can help his father handle bags of Seychelles Guano.

# SEYCHELLES GUANO

This Guano contains 24% Phosphoric Acid and 15% Free Lime in the form of Coral Carbonate of Lime. Being dry and powdery, it is easy to drill, and the results obtained from the large quantities put on last season have been good.

Packed in Store in small bags, well sewn. This packing is in such good, sound bags, well sewn, that packages will reach customers anywhere in good order and condition. We can give immediate delivery of this packing any time from now on—

Per Ton, £4/7/6; 5cwt., 23/6; 1cwt., 5/-; F.O.R., ex Store, Auckland.

## A SUPER. AND SEYCHELLES MIXTURE.

A mixture of half Super. and half Seychelles Guano makes an excellent quick-acting, non-acid mixture at a low cost, if the two are mixed in the drill which is easily done.

## POTASSIC MANURES.

See also Potassic Phosfull on page 21. All the following Potash Manures are quoted F.O.B. or F.O.R. Auckland:—

|                                     | Per Ton. | 5cwt. | 1cwt. | POTASSIC BASIC SUPER— |                                                     |
|-------------------------------------|----------|-------|-------|-----------------------|-----------------------------------------------------|
| Kainit, 14% pure Potash             | £5/17/6  | 32/6  | 7/-   | Ex Works—F.O.R.,      | £4/10/-; F.O.B., Onehunga,                          |
| Potash Salts, 30% pure Potash       | £7/ 4/-  | 38/6  | 8/6   |                       | £4/15/-; F.O.B., Auckland, £4/16/-; 12 bags to ton. |
| Sulphate of Potash, 48% pure Potash | £15/ 4/- | 78/6  | 16/6  |                       |                                                     |
| Muriate of Potash, 50% pure Potash  | £13/ 5/- | 66/6  | 14/3  | Ex Store              | Per Ton 5cwt 1cwt<br>£4/18/6 27/6 6/-               |

## NITROGENOUS MANURES

Much has recently been published about the use of Nitrogenous Fertilizers in connection with Grass Land, but the wise farmer knows that the fertility of his soil must first be built up by continued application of Phosphates and Potash, and sweetened by Lime, before full benefit can be obtained from nitrogenous manuring

### SULPHATE OF AMMONIA.

Price: £11 per Ton; 5cwt., 58/6; 1cwt., 12/3; F.O.R. or F.O.B.

We have shipments of I.C.I. Sulphate of Ammonia (20.6% Nitrogen) arriving at intervals. To obviate any delay, we suggest that you book your requirements early

Packed 16 to the ton, and delivered F.O.R. or F.O.B. Auckland, unless otherwise stated. All prices net.

#### A.Y. HIGH GRADE BONEDUST—

A Non-acid Manure, containing 50% to 55% Phosphates, plus 4½% to 5% Ammonia.

Madills Ex Works, F.O.R. Tuakau—£9/2/6.

|               | Ton.   | 5cwt. | 1cwt. | 56lb. | 28lb. | 14lb. |
|---------------|--------|-------|-------|-------|-------|-------|
| A.Y. Ex Store | £9/7/6 | 49/-  | 10/-  | 6/3   | 3/9   | 2/6   |

#### AMMONIATED SUPER.—

Ex Works—F.O.R., £5/16/-; F.O.B. Onehunga, £6/1/-; F.O.B., Auckland, £6/2/-; 12 bags to ton.

|          | Per Ton | 5cwt | 1cwt. |
|----------|---------|------|-------|
| Ex Store | £6/ 4/6 | 34/- | 7/3   |

### BLOOD AND BONE

Contains 7% Nitrogen. 16 bags to ton, £7/15/- per ton. Railage free on 30cwt. lots to any station south of Auckland.

|                                                               | Per Ton. | 5cwt. | 1cwt |
|---------------------------------------------------------------|----------|-------|------|
| F.O.R. or F.O.B. Auckland                                     | £ 7/10/- | 40/-  | 8/6  |
| DRIED BLOOD—Contains over 13% Nitrogen. 12 bags to ton        | £10/ -/- | 52/6  | 11/- |
| NITRATE OF SODA—Contains 15% Soluble Nitrogen, 12 bags to ton | £12/ 5/- | 63/-  | 13/6 |

#### SULPHATE OF IRON—

|         | Per lb. | Ton. | 5cwt. | 1cwt |
|---------|---------|------|-------|------|
| Crushed | 4d.     | £7/- | 37/6  | 8/3  |

#### LIMONITE—

|                         | Per Ton. | 5cwt. | 1cwt |
|-------------------------|----------|-------|------|
| F.O.R., Whanagarei      | £5/ -/-  | —     | —    |
| Ex Store, F.O.R., Auck. | £5/15/-  | 31/-  | 6/9  |

## GREEN MANURING

IS BY FAR THE CHEAPEST WAY TO SUPPLY NITROGENOUS MANURE AND HUMUS.

There are many Green Manure crops, but the recognised ones are:—Lupins, Mustard, Peas, Oats, Red Clover, and Italian Ryegrass. A green crop is equal to a dressing of stable manure, with the advantage that it is already spread. When artificial fertilizers have to be carted a long way, top-dressing is prohibitive. Green Manuring, with perhaps the application of some Phosphatic Manure, is the cheapest way of making poor soil rich.



# LIME

## The Cure for Acid and Sour Soils. Prevents Disease in Stock.

All Prices Net, F.O.R. Works, unless otherwise quoted. N.Z. Railways carry Lime free for 100 miles when their regulations are complied with  
Minimum order, 1 Truck.

### WAIKIEKIE LIME—

In Bulk 15/- per ton; or minimum 10 ton lots, 14/6 ton.

Bagged, 6/6 per ton extra, less 3/- per ton for usable lime bags returned to Works, railage prepaid.

Ton lots, or less than Trucks, 26/- F.O.R. Waikiekie. Carriage extra

### HANGATIKI LIME—

In Bags, in Truck lots—13/6 ton. Plus 6/- per ton if own bags are not supplied.

### TE KUITI LIME—

In Bags, in Truck lots—12/6 ton. Plus 5/- per ton if own bags are not supplied.

### WAITOTARA LIME—

In Bags, Truck lots, F.O.R. Waitotara, 14/- per ton. Plus 5/- ton for bags.

LIME, ex Store, F.O.R. Freight extra—

|                           | Ton    | 5Cwt. | Cwt. | 56lb. | 28lb. | 14lb. | 8lb. | 4lb. |
|---------------------------|--------|-------|------|-------|-------|-------|------|------|
| Agricultural Carbonate .. | £2/2/6 | 12/6  | 3/6  | 2/6   | —     | —     | —    | —    |
| Garden, Burnt Shell ..    | £7/5/- | 37/-  | 7/6  | 4/6   | 2/9   | 1/6   | 1/-  | -/6  |

All crops or pastures need Lime. Acids of the soil use it up, and the use of Super. and Sulphate of Ammonia both have a souring tendency, which must be corrected by Lime on non-acid manures.

(See pages 20 to 22)

## Control of Ragwort and other Weeds

**SODIUM CHLORATE** is Recommended by the N.Z. Agricultural Department.

On soft weeds, such as Ragwort and Pennyroyal, 100 per cent. kills were obtained by using 3lbs. to 5lbs. of Sodium Chlorate to 10 gallons of water when the plants were young. The plants require to be lightly sprayed in dry weather. Once the spray has dried, no ill-effects need be feared by rain falling; and, what is of more interest to the farmer, Sodium Chlorate offers no danger to cattle. In fact, stock can be grazed on the same paddock on which the spray is being used.

Ex Ship F.O.R., in 1cwt. Drums, 40/3. Ex Store F.O.R., 5cwt. lots, 43d; 1cwt, 5d; 56lb, 5½d; 28lb., 5½d.; 1lb., 6d.

## Yates' Terms

**YATES' BOOKING CLAUSE** Makes Buying Right a Certainty.—We will be pleased to book your order now at these current prices, and when delivery is given, invoice your order either at the set of prices ruling when the order is taken or that at time of delivery, which ever set is lowest. By this system you have everything to gain, and nothing to lose. This benefits us in that we can arrange supplies ahead. Although orders are binding contracts on both sides, we will give favourable consideration to any request for cancellation when there is time to dispose of the goods elsewhere without loss.

**DELIVERY.**—All Grass and Clover Seeds over the value of £1, unless specially quoted, are offered free on board rail or steamer, Auckland; but we pay freight to the nearest direct station or port. Manures, Grain, etc., are quoted as usual f.o.r. or f.o.b. Auckland, or in some cases f.o.r. New Plymouth.

The LOW PRICES in this Catalogue are Nett. When cash is not sent with order, goods will be Invoiced to approved clients at our Booked Prices, but the whole of this booking fee, amounting to 7½% Discount, may be deducted for payment within 10 days of date of Invoice. For payment by 25th of month following delivery, we allow 5% Discount off Booked Prices, or 2½% Discount for payment by 25th of second month following delivery; all accounts must be paid by end of third month. From other than approved clients we naturally expect cash with order or a satisfactory Auckland business reference.

**DAIRY COMPANIES AND STORES.**—We are on good terms with all dairy companies and stores, and will be pleased to charge the manure through any company you are supplying.

**BLANK CHEQUES.**—Many farmers post us blank cheques to fill in when they do not know the exact cost of the goods, freight, sacks, etc. This enables them to take advantage of our low Cash prices. It is quite safe from your point of view if you fill in our name and cross out the word "Bearer," and write across the cheque "Not Negotiable," and at the bottom "Under Twenty Pounds," or whatever sum you think will roughly cover the cost of the goods, freight, sacks, etc. This stops the cheque being misused if it goes astray, which is very unlikely.

**LARGE QUANTITIES.**—In trying to still further reduce the cost of selling and delivering to our customers, we are brought in touch with a well-known commercial fact that it costs almost the same to make up, consign, invoice and put through the books any order, whether large or small. This means that the expenses per pound or bushel are less for larger quantities. We therefore have a system of lower prices for larger quantities—it would not be fair to large buyers if we did not allow them the saving in costs which is rightly theirs.

## Arthur Yates & Co., Ltd.

Albert Street, Auckland.

Vine Street, Whangarei.

Egmont Street, New Plymouth.



**CHEAPER  
AND  
HIGHER  
GRADE**

**DISCOURAGES  
FEED  
FLAVOURS**

**QUICK ACTING  
AND  
LASTING  
RESULTS**

**PROMOTES  
HEALTH  
OF ALL  
STOCK**

**GIVES THE  
GREATEST  
PRODUCTION**

**NON ACID  
HAS THE LIMING  
VALUE OF A TON  
OF LIME**

**PHOSFULL  
NON-ACID  
PHOSPHATE  
26/29%**

**ENSURES  
BIGGER  
RETURNS**

**THE POPULAR  
NON ACID MANURE  
PRODUCES THE RIGHT  
KIND OF GRASS**

**With Your Bigger Income You Can Buy a Better Manure**